TEXTILE WORLD

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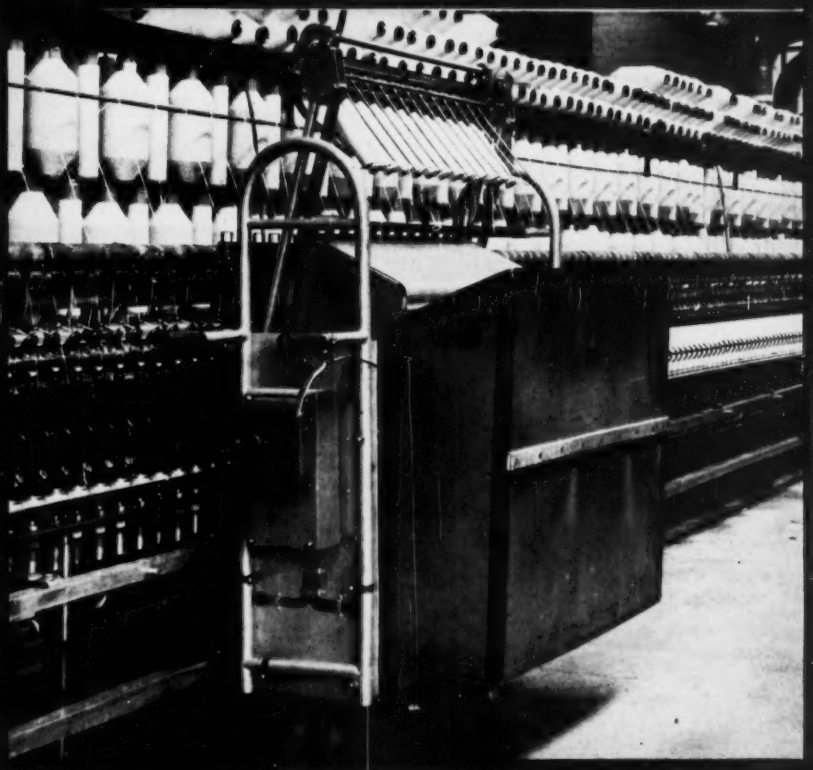

AUTOMATIC LOOM SHOWN AT PEPPERELL [illegible]

[illegible] Story Starts on Page 119

Pepperell Experiments With ALUMINUM-ALLOY LAYS

Shuttle life has been increased from 4 to 10 times in experiments being conducted on 96 X-2 looms equipped with extruded aluminum-alloy lays. Details of results found start on page 119.

NYLON COMBINATIONS *Are Not Hard to Throw*

Preshrinking nylon is important for throwing new combinations. Nylon-acetate combinations lead; regular doubler-twister machines are used. Tensions must be watched carefully. Story starts on page 141.

Berkshire HOSIERY-DYEING *Methods Heard by AATCC*

Techniques used by Berkshire on 15- and 20-den. monofilament hosiery are discussed, including scouring; dyeing assistants; acetate, direct, chrome, neutral-acid dyestuffs; and Nydyes. See page 114.

REPEAT PERFORMANCE . . . number 8

number 1 1936 — ***Carding and Spinning Mill***

number 2 1936 — ***Weave Shed***

number 3 1940 — ***Stock Preparation Department***

number 4 1941 — ***Dye Plant***

number 5 1942 — ***Boiler Plant***

number 6 1945 — ***Wool Scouring Plant and Storage***

number 7 1946 — ***Air-conditioned Card Room***

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ROBERT AND COMPANY ASSOCIATES

Architects and Engineers

ATLANTA

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DEPARTMENTS

Editorial	4
Free for the Asking	182
Kinks and Short-Cuts	166
New Dyes and Chemicals	240
News About Men	265
News About Mills	259
News About Suppliers	252
News of the Month	246
Pointers for Supervisors	165
Questions and Answers	185
Reader Service	181
Reviews of Books	244
Round Table	174
Textile Calendar	246
Textile Equipment News	194
Useful Accessories	236

DECEMBER, 1949

Vol. 99 — No. 12

Classified according to reader interest

Index—January to December, 1949 . . . . . Inside back cover

SPINNER	WEAVER	KNITTER	FINISHER	ENGINEER		COTTON	SYNTHETICS	WOOL
					FEATURE ARTICLES			
Y	W	K	F	E	More MECHANIZATION per Employee (Editorial) 4	C	S	W
Y	W	K	F	E	Automatic Doffer Hit of MANCHESTER SHOW. 101	C	S	W
Y					Stronger Yarn Produced by PIN DRAFTERS.... 106			W
		K			Hosiery HEELS Are Produced in Wide Range.... 108		S	
Y		K	F		Technology Presented at AATCC ANNUAL..... 109	C	S	W
		K	F		Berkshire HOSIERY DYEING Methods..... 114		S	
Y					Trash Removal Improves WOOL QUALITY.... 116			W
Y	W				SLASHING Practices Discussed by Georgia Men. 117	C	S	
	W				Pepperell Experiments With ALUMINUM LAYS 119	C	S	
Y					QUALITY WINDING DemandsPrecisionControl 120		S	
	W				Georgia WEAVERS Compare Operating Data.... 122	C	S	W
			F	E	STAINLESS STEEL the Answer to Corosion..... 124	C	S	W
Y				E	Winder-Yarn CONVEYOR Saves $10,000 a Year 126	C	S	
Y			F		Wider Textile Uses Now for RADIO-ISOTOPES 129	C	S	W
Y	W		F	E	CONTROLS Lower Costs, Raise Quality..... 133	C	S	
Y	W			E	Mill Men Discuss PRACTICAL PROBLEMS.... 137	C	S	
Y					NYLON COMBINATIONS Are Not Hard to Throw 141		S	
Y	W	K	F		The Supervisor as an INTERVIEWER..... 143	C	S	W
				E	Outdoor STEAM MAIN Replaces Two Boilers... 145	C	S	W
			F		INTAGLIO PRINTING Superior for Vinyl Film 147		S	
					KINKS AND SHORT-CUTS			
		K	F	E	50-Ft. CONVEYOR Moves Napped Rolls..... 166	C	S	
		K			NEEDLES Stored in "Conditioned Cabinet"..... 166	C	S	W
Y					RIBBON-LAPPER Knock-Off Does Not Choke Up 167	C		
				E	Light TRUCK Made of Pipe and Boards..... 168	C	S	W
Y					Gage Measures ROLLS From Center to Center... 168	C	S	W
			F		Leaders for JIG DYEING Stops Undyed Ends.... 168	C	S	
Y	W	K	F	E	COLOR CODE for Gears Prevents Errors..... 170	C	S	W
	W				BRUISED WARPS Prevented by Wires..... 172	C	S	W
				E	Spinning-Room AIR Blown to Weave Room.... 172	C	S	
					IN OTHER DEPARTMENTS			
	W				PROTECTION MOTION RaisesFelt-LoomSpeed 149	C	S	W
		K	F		BOARDING RETORT Steam-Sets and Dries..... 150	C	S	W
			F		TRANSPARENT WRAPPING Is Highly Durable 152	C	S	W
	W				PICK-AND-PICK Loom Is Automatic..... 152			W
Y					Gage Controls MOTE-KNIFE Angle..... 152	C	S	
Y	W	K	F	E	VACUUM CLEANER Is Completely Portable.... 154	C	S	W
				E	Cylinder Dispenses "WETTER WATER" Penetrant 154	C	S	W
	W		F		ABRADER Correlates Actual-Wear Data..... 154	C	S	W
Y	W				NYLON TEXTILE ROPE Has Long Life..... 154			W
				E	SPEED CONTROL Useful on Small Motors..... 156	C	S	W
				E	Split-Drum GRINDER Uses Strip Abrasives..... 156	C	S	W
Y	W	K	F	E	AlSiMag SISTER HOOK Available for Test..... 156	C	S	W
				E	PNEUMATIC DEVICE Operates Sliding Doors.. 156	C	S	W
				E	HUMIDIFIER For Boosting Existing Systems.... 158	C	S	W
				E	CONDITIONING Unit Has Cell Construction.. 158	C	S	W
				E	MOTOR BRAKE Gives Fast, Cushioned Stops... 158	C	S	W
Y	W	K	F	E	MACHINE COUNTS 1,000 Tickets per Min..... 160	C	S	W
			F		Compact CHEMICAL FEEDER Meters Chemicals 160	C	S	W
			F		PUMP Handles Corrosive Liquids..... 160	C	S	W
				E	Atmosphere controlled by DEHUMIDIFYING Unit 160	C	S	W
	W				BATTERY-Filler Truck Reduces Bobbin Handling 162	C	S	W
	W		F		HEATING COILS in Plate Form..... 162	C	S	W
			F		Horizontal CALENDER Has Compact Design.... 162	C	S	
Y	W	K	F		Supervisors Should Know Workers' Ceiling.... 174	C	S	W
Y					STROBOSCOPE Shows Winding of Roving.... 174	C	S	W
Y					Basis for NEP COUNT 100 sq. in. of Web..... 176	C		
Y					Industry Needs WOOL TOP Standard..... 178			W
Y					Card-Flat STRIPS Combed at Back of Card..... 185	C		
	W		F		Air and Humidity Do Affect OVEN DRYING.... 188	C	S	
Y					NEP STANDARDS for Combed Tops..... 190			W
	W		F		Anti-Jelling Agent Improves STARCH SIZE.... 240	C	S	
			F	E	ANTI-SLIP FINISH Improves Hand of Fabric... 240	C	S	
			F		Two New DYES Announced by Du Pont..... 242	C	S	
			F		Liquid DETERGENT Soluble at Low-Temperature 242	C	S	W
			F		Five New DYESTUFFS Announced by General... 242	C	S	W

TABLE OF CONTENTS

THE *Long-Range* VIEW

Mechanization More ~~Production~~ Per Employee

We in the textile industry are probably as guilty as any group in perpetuating a misconception regarding the contributions of employees in achieving higher and higher levels of production. We talk and write about increased productivity per employee and, intentionally or not, give the impression that higher output is achieved largely, if not solely, by greater effort on the part of employees. A moment's reflection is all that is necessary for us to realize that the impression is not correct.

Most persons who refer to "higher productivity per employee" fail to see the implications inherent in the expression. Others realize the implications but are anxious to perpetuate the fallacy since it seems to support their claim for a larger share of the income of the plant.

Before we can pursue this thought to its logical conclusion, it is necessary first to clarify just what it is in the textile industry that has permitted production to reach the highest levels in history—and at a low cost per unit. Two things are almost entirely responsible: (1) better organization of the elements involved in the production of textiles and (2) greater mechanization. Of course, the two must go hand in hand.

We do not intend to belittle the part employees have played and are playing in increasing production. We commend those who have adapted themselves to new systems, who have shown their willingness to try changes in their work, and who have made suggestions themselves for improvement. But if it were not for management to evaluate, plan, and execute changes—if it were not for others who have been willing to finance the changes, we would never have made the progress which is so evident today.

We readily agree that some of the fruits of improvements should go to employees who cooperate by carrying them out. We feel that some fruits must go to customers. But if we are to continue to make progress, a larger share must go to those who are most directly responsible. We mean the key supervisors in charge of mill operations and the mill owners who reinvest a sizable portion of mill earnings.

Thanks to increased mechanization and good management, textile workers are paid well; they have a short work week and good working conditions. Most jobs are not physically exhausting nor do they require a high degree of skill or mental ability.

For a relatively short period, textile mills have had sufficient earnings to enable them to pay their key men well and to invest earnings in improving plants and equipment. Mill managers have shown that they are willing and anxious to reinvest earnings to improve their plants. But today, profits which might be spent for improvements are eaten into by taxes and are threatened by increases in labor costs.

Such things as curtailment in modernization programs and the releasing of "high-priced" men indicate a slowing up of the trend which, for the past few years, has lifted textile manufacturing to its present high level in American industry. If we wish to continue to make progress in textiles, our future course is clear. We must have still better organizing of production than in the past, and we must mechanize more and more.

On this page last August, we pointed out that more units per operator could often be achieved through lower machine efficiency. In every issue, our pages show an infinite number of ways to operate a textile plant better. None of the ways call for harder work on the part of employees, but many do call for a greater proportion of work on the part of machines. Truly, it is higher mechanization per employee and better planning by employers that have been and will be responsible for higher levels of textile output.

C. H. Bendigo

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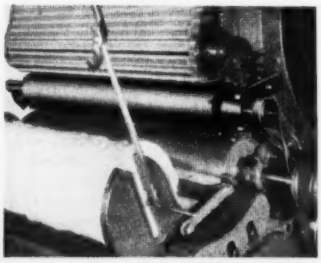

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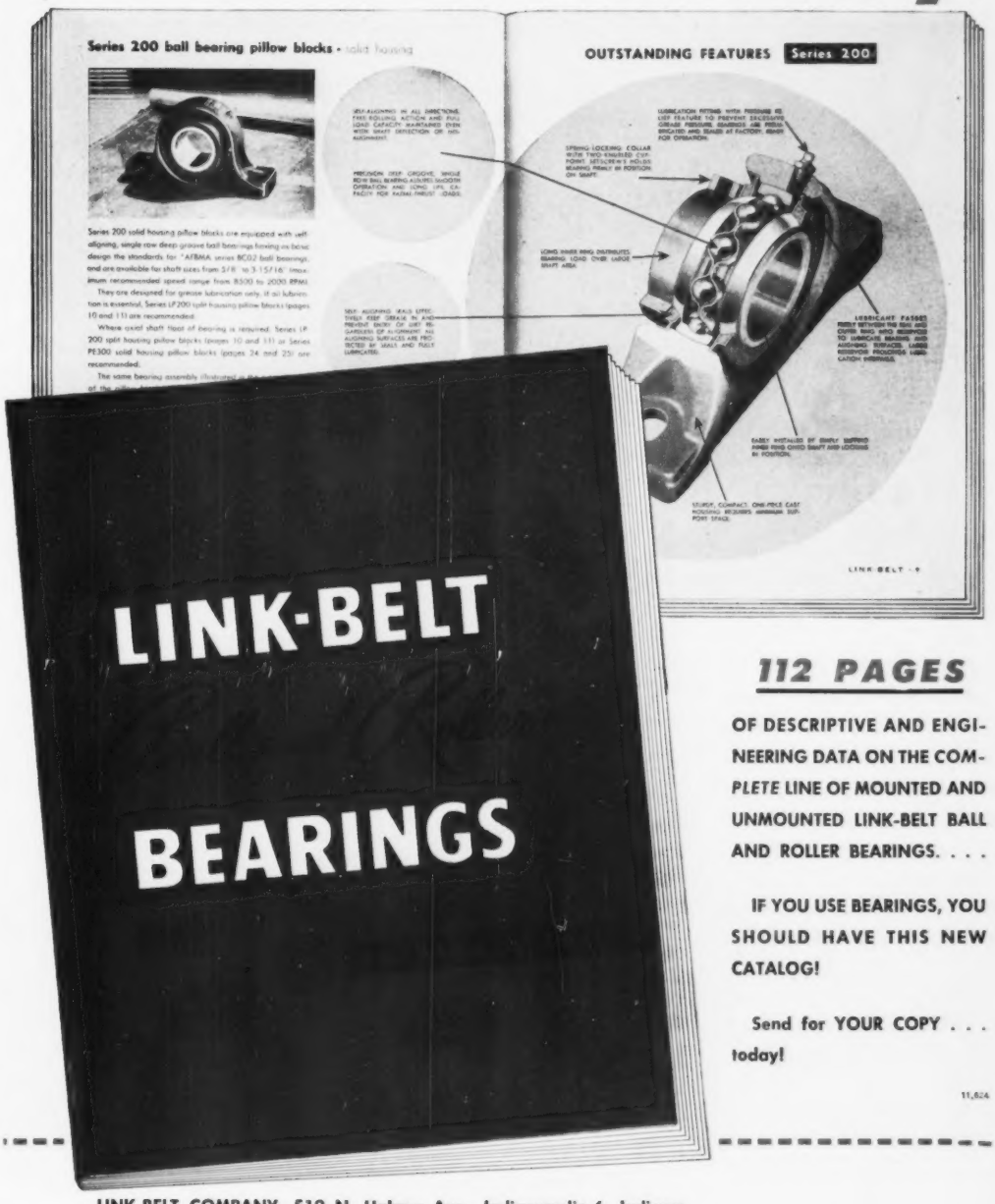

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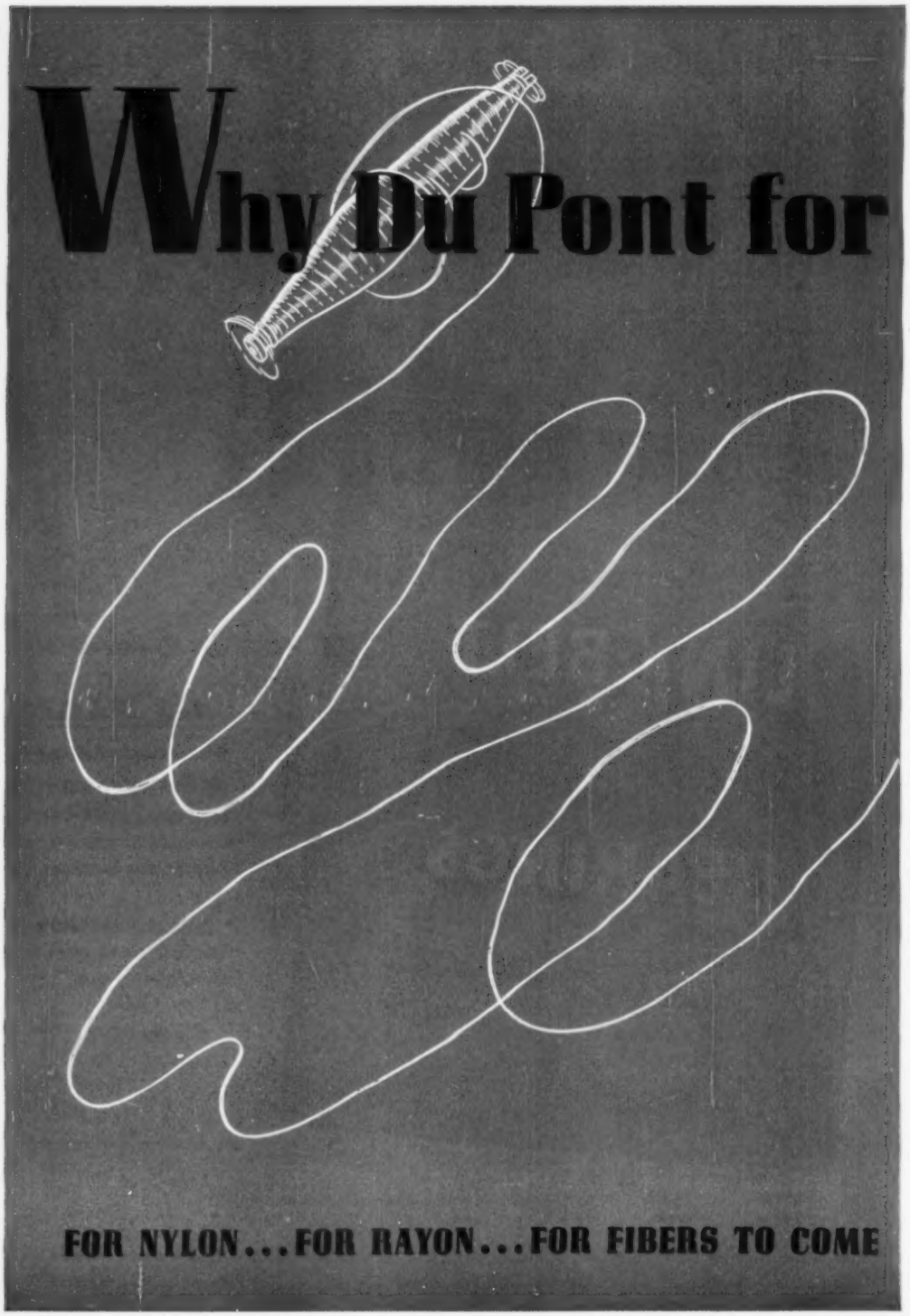
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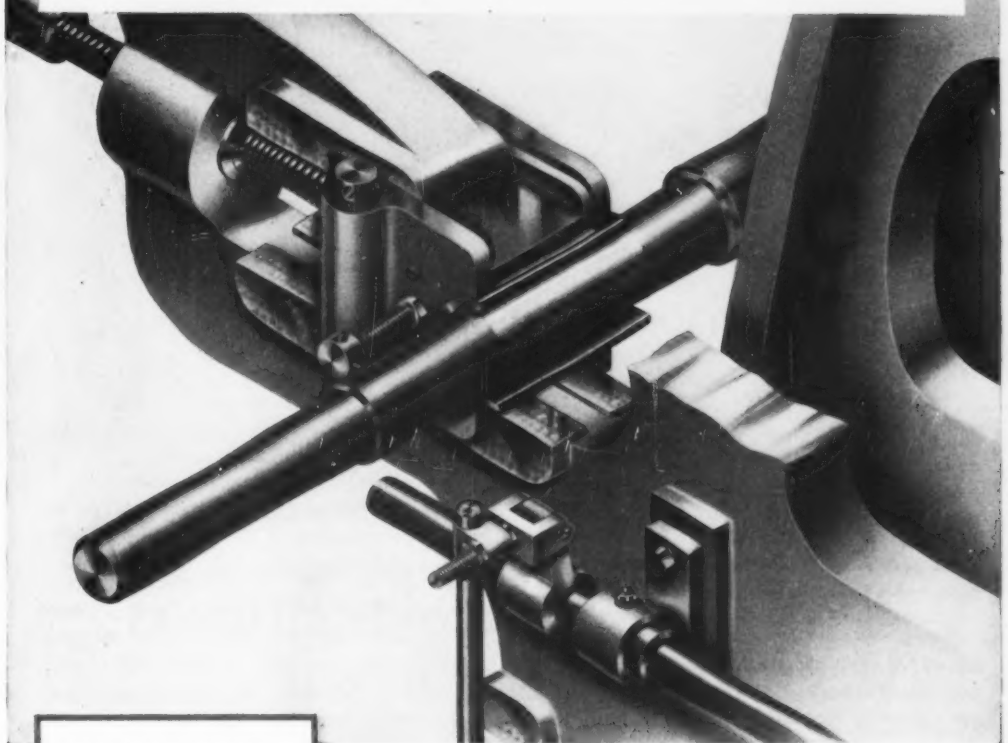

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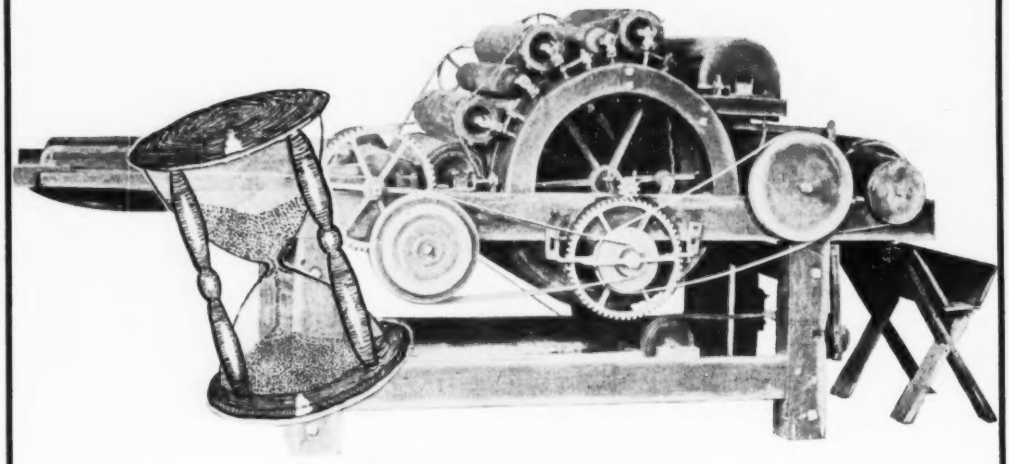

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TEXAIR has a cover that's tough and rugged, built smooth so you can easily pull it across floors and around corners. And both the cover and the tube are oil-resistant — won't soften or weaken through contact with oil on machines or in the air line.

Best by any test for quality and economy, you can order TEXAIR Hose from the G.T.M. or your regular Goodyear Distributor. For further details, write Goodyear, Akron 16, Ohio.

Texair—T. M. The Goodyear Tire & Rubber Company

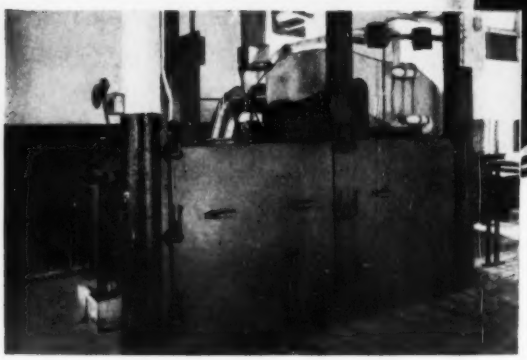
GOODYEAR

THE GREATEST NAME IN RUBBER

A Recorder Chart Speaks

for

The Fleet Line YARN STEAMER & CONDITIONER



"I am a typical chart taken from the recording instrument on a Fleet Line Yarn Steamer and Conditioner in a well-known New England woolen mill. The graph line on my front shows how steam is fed automatically into the machines. Note that the peaks of this line form practically a perfect circle. That means that temperature and humidity conditions are UNIFORM in the machine at all times and this naturally results in uniform condition of the yarn, from bobbin to bobbin and batch to batch."

Uniformity of product is only one of many advantages that The Fleet Line Yarn Steamer offers. Other advantages are as follows:

1. **May be used for steaming only or steaming and conditioning.**
2. **100% increase in production.**
3. **Temperature, humidity and length of treatment automatically controlled.**
4. **Firm twist setting, due to quick, thorough penetration.**

Catalog page on request.

RIGGS AND LOMBARD, INC.

FOOT OF SUFFOLK STREET, LOWELL, MASS.

The Fleet Line — A complete line of modern equipment to successfully handle present day wet-finishing, carbonizing and dyeing requirements.

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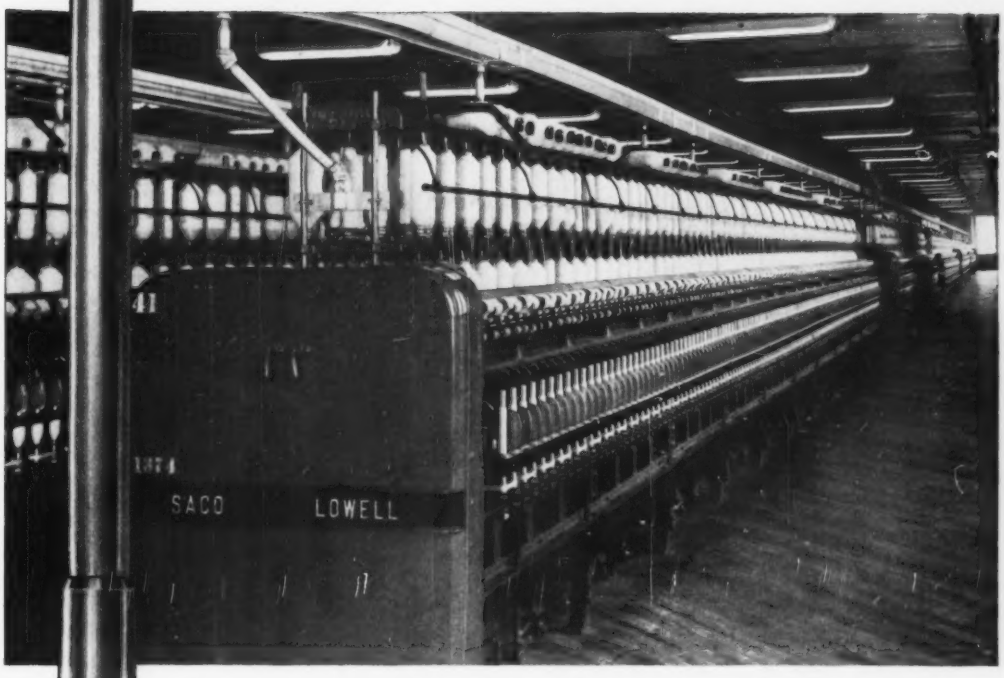
EXPORT AGENTS: — Latin America — Meyer, Lyra & Co., 228-229 Fulton St., N. Y., N. Y. • Balkan States, Egypt, Palestine, India — Arlind Corp., 509 Madison Ave., N. Y., N. Y. • South Africa — Noel P. Hunt, Pty., Ltd., Embassy House, 326 West St., Durban, South Africa • China — G. R. Coleman & Co., Inc., 50 Church St., N. Y., N. Y.

Increase Tape Life Nearly 300%



New Departure Equipped New Era Spindles in Saco-Lowell Spinning Frames at New Continental Mills, Lewiston, Maine.

Performance proved by hundreds of thousands of spindles in over five years in mill operation.

Reducing power requirements by 25% or more and increasing tape life approximately 300% are only part of the direct results obtained by the use of free turning, true running spindles on modern, New Departure precision ball bearings.

These bearings are sealed and grease lubricated. There is no oil throwing, no oil soaked yarn, no build-up of oil and lint mixture on the spindle rail.

There is no adjusting, repairing or replacement of parts required under normal operating conditions, and bearings show no perceptible wear after 30,000 hours.

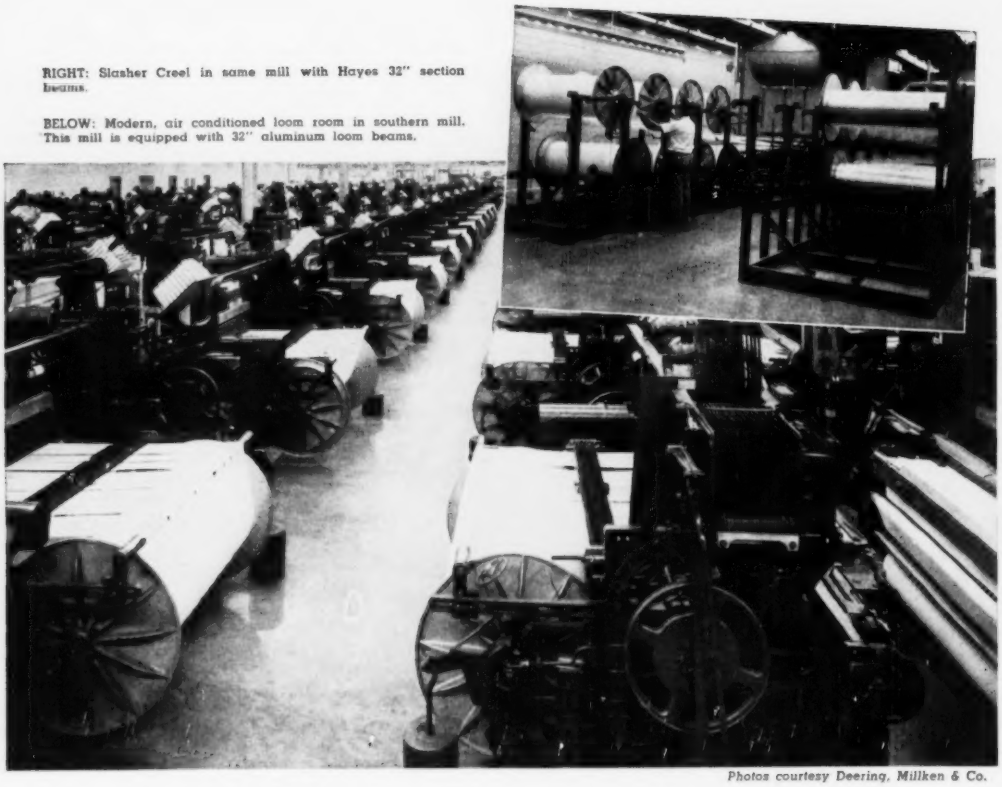
Nothing Rolls Like a Ball

NEW DEPARTURE
BALL BEARINGS

NEW DEPARTURE • Division of GENERAL MOTORS CORPORATION • BRISTOL, CONNECTICUT • BRANCHES IN ALL PRINCIPAL CITIES

RIGHT: Slasher Creel in same mill with Hayes 32" section beams.

BELOW: Modern, air conditioned loom room in southern mill. This mill is equipped with 32" aluminum loom beams.

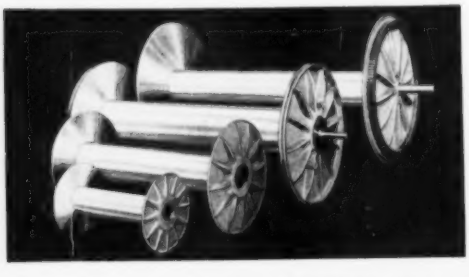


Photos courtesy Deering, Millken & Co.

Better Weaves at Lower Costs

Hayes Light Metal Beams Cut Costs for Modern Southern Mills

Over 10,000 Hayes light metal beams are producing better cloth at lower costs per yard for large, modern southern mills. This wide acceptance of Hayes beams by so many of the nation's largest fabric producers, is positive proof that mills everywhere can profit from the use of light metal beams by Hayes.



Here is the "WHY" of Hayes major advantages of Loom and Section Beams

GET BETTER WEAVES — Hayes beams are true running, giving more uniform picks per inch. Selvages are better. They are smooth and polished; cannot splinter to snag threads — cannot rust to stain weaves.

GET LOWER COSTS — Shipping and handling costs are sharply lowered because Hayes light metal beams save up to one-half the weight of cast iron and wooden beams. Larger beam sizes permit larger continuous runs. Trueness in running and minimum head deflection reduce the number of rejects and seconds. The permanent, rust-free qualities of aluminum and magnesium practically eliminate maintenance costs, and repairs are easily effected.

You can obtain loom beams, section beams, and tricot beams for use with acetate or filament nylon, from Hayes, in all styles. Hayes also produces replacement barrels, complete with new shafts, for use with your present beam heads. *Write today for complete information and the new Hayes Catalog No. 100.*

HAYES

INDUSTRIES, INC.

HOME OFFICE: Jackson, Michigan

For more information, write direct or use Reader Service post card.

SANDOZ PRESENTS *The color achievement of the month*

Burnt Sienna ...BY VAREL

Wearers of this clever tweed by Varel Woolens can be sure of being in step with fashion's latest developments . . . just as the mill, by using Sandoz colors, is sure of benefiting from the latest developments in dyestuffs.

An example of Sandoz' developments aimed at more profitable dyeing are such exclusive Sandoz colors as:

METOMEGA CHROME BROWN 3GL Pat.
METOMEGA CHROME BROWN RLL Pat.

which are not only extremely fast to weather, perspiration, dry cleaning and pressing, but also highly efficient to handle. The wet finisher knows they will not bleed into white or other light colors in the fulling, or change shade when he carbonizes the pieces. Fabrics dyed with these mill-proven browns undergo no change of shade when given that "rough" mill treatment, decatizing.

Other colors in this well-known group which make life easier for the finisher are:

METOMEGA CHROME GREEN BLL Pat.
METOMEGA CHROME BORDEAUX 2BL
METOMEGA CHROME YELLOW ME
METOMEGA CHROME ORANGE ML

And for any chrome, acid or direct dyes . . . or auxiliary chemicals . . . for both natural and synthetic fibres . . . be guided by the successful "color achievements" you see in these Sandoz advertisements.

SANDOZ CHEMICAL WORKS, INC., 61 VAN DAM STREET, NEW YORK 13, N. Y.
Application laboratories and stocks at Boston, Philadelphia, Charlotte, Chicago, Los Angeles, Toronto • Other branches at Providence, Paterson and Montreal

SANDOZ *thinks ahead with textiles*

BARBER-COLMAN

COMPLETE, AUTOMATIC

Slasher Room Controls

INCREASE SLASHER PRODUCTION

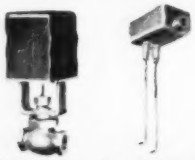
IMPROVE WEAVE ROOM EFFICIENCY

When considering *self-liquidating* improvements in a textile mill, no mill executive should overlook the slasher room. Modern automatic control equipment installed on existing machines costs relatively little and can pay for itself in a short time. Barber-Colman Complete Slasher Room Controls include: (1) TEMCHRON Size Cooking Controller that assures uniformity of batches through automatic control of warm-up time, cooking time and temperature, and holding temperature; (2) Automatic temperature control for size storage kettles; (3) Temperature controls and level controls for the size box, to provide constantly uniform condition of the size being used; and (4) Automatic *Electronic* MOISTURE CONTENT CONTROLLER that constantly regulates the speed of the slasher to compensate for all variables, and assures the delivery of warps with uniform and optimum moisture content. The effect of these controls is a considerable increase in slasher production and a noticeable improvement in weave room efficiency through improved warps as shown by the typical results reported below. Consult your Barber-Colman representative concerning possible improvements and savings in *your* mill — his advice and recommendations are available without obligation.

Electronic

MOISTURE CONTENT CONTROLLER

An *all-electronic* instrument that controls slasher speed constantly to compensate for all variables and to produce warps of uniform and optimum moisture content.



SIZE BOX CONTROLS

Two functions are performed — maintenance of uniform size temperature and maintenance of proper size level in the box.

CYLINDER TEMPERATURE CONTROLS

Essentially, these are motor-operated valves on the steam supply line governed by thermostats in each cylinder, with any desired indicating or recording accessories.

TEMCHRON

SIZE COOKING CONTROL

Assures uniformity of size from batch to batch by automatic control of warm-up time, cooking time and temperature, and holding temperature. Fully adjustable.

TYPICAL RESULTS
OF INSTALLING BARBER-COLMAN SLASHER CONTROLS

A South Carolina mill, slashing 19s cotton warp for ticking, secured a slasher production increase of over 30%. Weave room efficiency was increased 2.0% and there was an improvement in quality of goods.

Another South Carolina mill, weaving print goods from 30s yarn, increased slasher production by 20% even though steam pressure on the cylinders was reduced from 10-12 psi to 1-3 psi.

A North Carolina mill, weaving sheeting from 20s yarn, found slasher production was increased by 25% and weave room efficiency by 1.5%.

Another North Carolina mill, weaving fancy striped shirtings from 40s yarn, did not try to increase slasher production because of an established yarn inspection and repair operation, but did obtain sufficient benefits from quality improvement, increased weave room efficiency, and better tying-in to justify the investment.

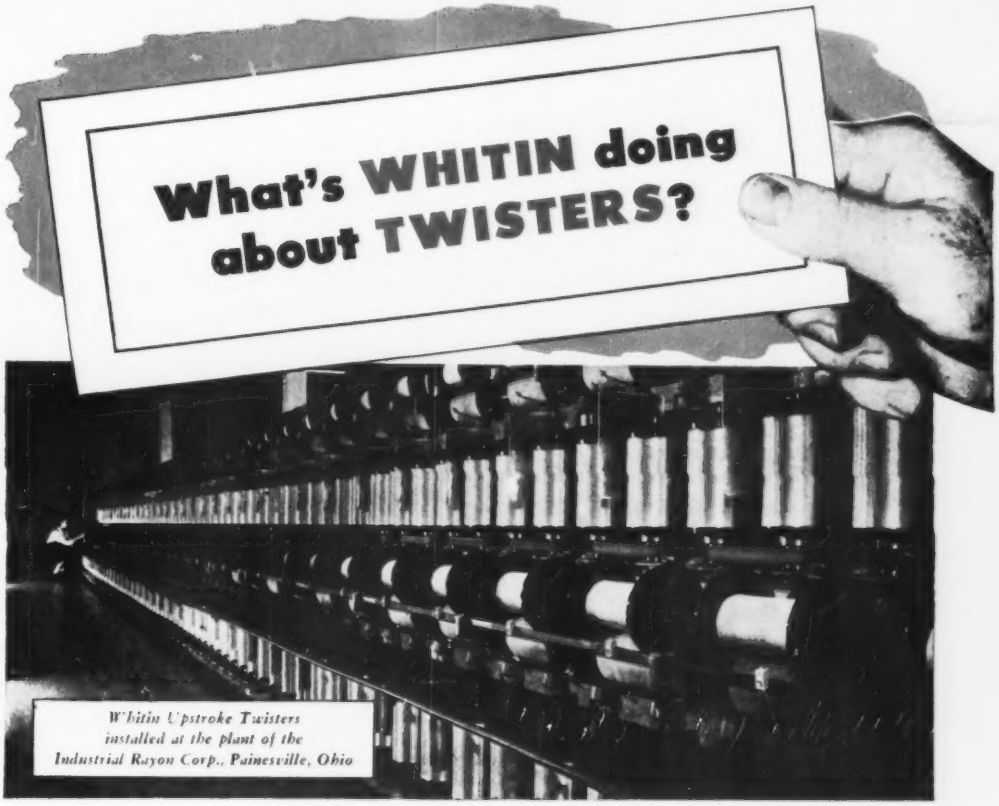
Six New England and Canadian mills report increases in slasher speed ranging from 15% to 50%. Another New England mill actually increased speed by 100%, but the yarn was previously very much overdried.

Write for Literature

BARBER-COLMAN COMPANY
ROCKFORD, ILLINOIS

BOSTON, MASS. • GREENVILLE, S. C. • GREENSBORO, N. C.

What's WHITIN doing about TWISTERS?



Whitin Upstroke Twisters installed at the plant of the Industrial Rayon Corp., Painesville, Ohio

Photo courtesy of Industrial Rayon Corporation

For 75 years, constant developments in design—in quality—and in performance have created an enviable reputation for Whitin Twisters for *natural* fibers. With the advent of the first continuous-filament *synthetics*, new industry requirements were established and new impetus given to Twister development. Accepting the challenge, Whitin quickly undertook an aggresive and intelligent Twister development program.

There is concrete evidence today that this program has been as successful as it was varied. Within the last twenty years, Whitin has developed 15 different models of upstroke twisters, and more than 25 different models of ring twisters. These twisters today are processing millions of pounds of nearly every known commercial fiber, not only the natural fibers, but also for asbestos, glass, paper and various synthetic fibers such as rayon, nylon, vinyon, and saran.

Many of our current models are operating with both larger packages and higher traveler speeds than had heretofore been considered practical, resulting in greatly increased yarn production. Whether you are running tough rayon tire cord or yarns for the most delicate fabrics, there is a Whitin twister to do the job better, faster, and more economically.

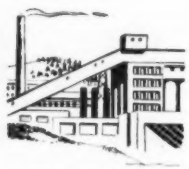
If the twisting process is an essential step in the production of your product, we can help you. Yes, Whitin has really been doing something about twisters.

Whitin MACHINE WORKS

WHITINSVILLE, MASSACHUSETTS
CHARLOTTE, N. C. • ATLANTA, GA.

WHAT DO TREES HAVE TO DO WITH TEXTILES ?

Our forest properties are kept continuously productive under far-sighted management policies.



In our four mills, a number of types of highly purified cellulose are produced by chemically processing wood.

More than eighty per cent of all viscose rayon and acetate yarns produced in this country are made from highly purified cellulose derived from trees.

Today, a high percentage of the better textiles are made from viscose and acetate fibers—textiles that are used in most types of wearing apparel and in many other products. One reason for the growing demand for articles made from these yarns is the progress that has been made in fabricating and processing them.

By mixing or blending the two types of fiber, or by blending them with other textile fibers, a great variety of superior new fabrics has been produced.

Rayonier does not manufacture yarns or finished textile products; but for nearly twenty years the domestic textile industry has looked to our mills as a source of supply for the highly purified wood cellulose needed to produce fibers and yarns. Today, nearly half of this industry's wood cellulose requirements are being met by the Rayonier organization.

RAYONIER
INCORPORATED

EXECUTIVE OFFICES: 122 East 42nd Street, New York 17, New York • MILLS: Hoquiam, Port Angeles, Shelton, Washington; Fernandina, Florida

PRODUCER OF HIGHLY PURIFIED WOOD CELLULOSE for TEXTILES • TIRE CORD • CELLOPHANE • PLASTICS

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SWIFT SOAP TEAM

We're READY with quality soaps for every textile need! You can always find the right soap for the job in Swift's complete line. Whether you need soaps for dyeing, fulling or scouring or any other specialized need, Swift's Soap Department is at your service. And you'll find that Swift's Soaps for textile uses have maximum uniformity of composition and excellent physical form. You can't buy finer soaps anywhere.

WILLING to help solve tough textile problems! You can put Swift's Sales Service Division to work on your soap problems today. We offer the facilities of Swift's Research Laboratories and the services of highly trained soap specialists.

Call SWIFT first for soaps

And ABLE to give fast service from Swift distribution points coast to coast!

You can order any of these fine soaps and expect immediate delivery:

Vertex Flakes — *White Ribbon Flakes*
557 Flakes — *Wool Flakes*

Plus other special formulations to meet your specifications. See your local Telephone Directory for address of your nearest Swift Office.

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See the following pages for more news!

ENGINEERS

Make use of our staff of technical advisers. Top textile engineers in every phase of the Bradford and French Systems are always ready to work with you. Call on them to lower production costs through efficient use of machinery.

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GET ALL YOUR MILL SUPPLIES

with ONE order to Atkinson, Haserick & Co.

The SUPER MARKET of the Textile Industry

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Caps, Tubes & Spindles
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Condenser Tapes
Doffer Comb Blades
Drawing Fliers
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Emery Cotts
Emery Fillet
Gears, Change, all types
Gill Box Aprons
Gill Box Bearings: all types
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Gill Box Conductors
Gill Box Drawing-Off Rolls
Gill Box Fallers & Pins
Gill Box Front & Back Cams
Gill Box Gears, all types
Gill Box Saddle Blocks
Gill Box Saddles
Kaye Oil Cans
Lubricators, Arragg Spindle
Mule Rope, Cotton
Mule Rope, "Columbian" Nylon
Parchment, Textile
Porcupines
Porcupine Pins
Rings, all types
Roller Chain & Sprockets
Roller Felt
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Spindles: Rabbeth & Ball Bearing
Tapes: Twisting & Spinning
Thread Spools, Wooden
Top Rolls: Ball Bearing & Ordinary
Yarn Guides, Plastic and Porcelain

Gill Box Screws: Intersecting & Open

Condenser Aprons

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Textile Machinery Agents and Engineers
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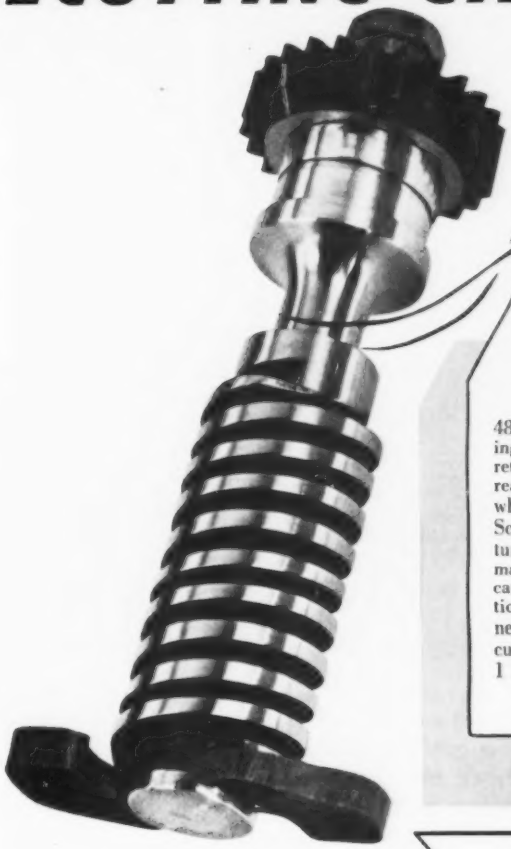
HOLDSWORTH
GILL SCREW CO., INC.

48 HOUR REPAIR SERVICE
RECUTTING GILL SCREWS



RUSH!

48 hours after a Holdsworth Intersecting Gill Screw reaches us it will be returned to you expertly recut and ready for action. The same machinists who cut and finish new Holdsworth Screws will work on the ones you return for repair. Rigid tests will be made for trueness of pitch so that you can expect the same smooth transportation of fallers that you would with a new set of screws. Send screws for recutting to Holdsworth Gill Screw Co., 1 Eudora St., Providence 1, R. I.

SUPER MARKET
of the Textile Industry

EXCLUSIVE SALES AGENT

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For every class of work, the set of cards recommended can be relied on to give the highest production compatible with quality. For existing carding sets in good condition, rapid modernization, affecting feeds and condensers, assures an improvement in both production and quality.

Literature dealing with new machines and improvements to existing machinery is available.

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of the Textile Industry
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(SALES) LIMITED
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Marketing the Textile Machinery made in the works of:
PLATT BROTHERS & CO. LTD.
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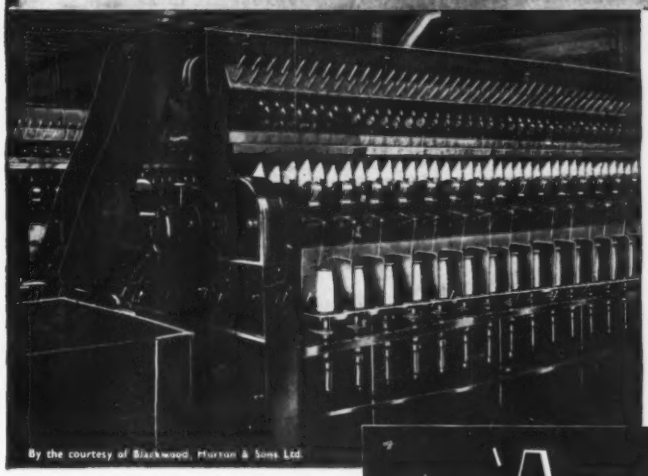
Twisting Frames



By the courtesy of Blackwood, Morton & Sons Ltd.

"Axminster" Twisting Frame with Locker motion

for

WORSTED YARNS
WOOLLEN YARNS
SILK & RAYON
YARNS & FLAX
ETC. ETC.

THE 'Axminster'

for

➡ Larger Packages
➡ Increased Production
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Agents, U. S. A.-French system machinery. The Blake Electrical Mfg. Co., 178 Atlantic Ave., Boston 10, Mass.

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P.S.S. 11

increase Cloth production . . .

cut Sizing costs . . .

Suitable for cotton, jute, wool, worsted, linen and rayon cut staple warps, the most outstanding features of the A.12 Machine are:

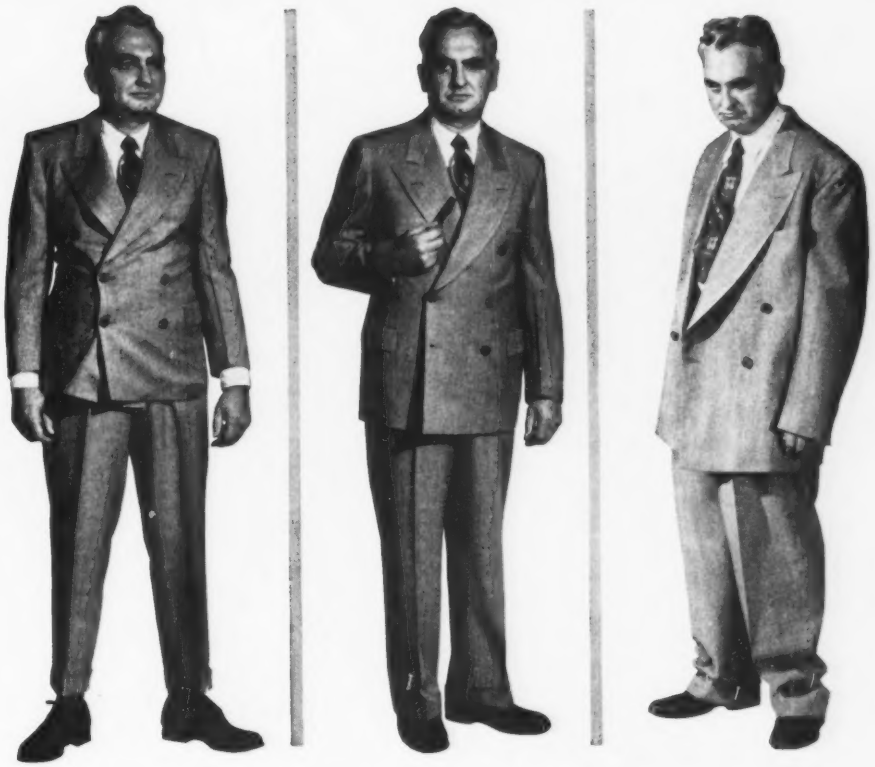
1. The production is higher than that of any machine of equal size.
2. Low operating costs.
3. Absolutely regular winding tension throughout the beam.
4. Complete and scientifically regulated operational control.
5. All-electric driving.
6. Thermostatic control of size box and drying chamber temperature.
7. Continuous indication of warp moisture content.

Hibbert model A. 12 sizing and moist air drying machine

JOSEPH HIBBERT & CO. LTD. DARWEN ENGLAND

S.I.

For more information, write direct or use Reader Service post card.



Why a Can of Paint is Like a Suit of Clothes

On interior painting jobs, the surest way to get greatest satisfaction for your money is to do what you do when you're buying a suit of clothes. TRY IT ON!

Yes . . . make a simple, comparative test of various brands of good paints. *Try them on your wall.* See what a gallon of each will do for you . . . how far each goes, how well it hides, how well it looks, how long it takes to apply.

On a test like this we're willing to stack up "Barreled Sunlight" against all other brands of paint you want to choose. And we're confident you'll find that "Barreled Sunlight" will give you the best results . . . *at lowest cost* . . . for four good reasons:

(1) "Barreled Sunlight" gives you "6 for 5" . . . up to 20% more spreading capacity per gallon. (2) "Barreled Sunlight" hides better . . . often requires only one coat for a topnotch repaint job. (3) "Barreled Sunlight" keeps its "fresh-painted" look longer. (4) "Barreled Sunlight" *goes on* faster . . . makes important savings on labor which today averages a good 80% of total painting costs.

Talk it over with a "Barreled Sunlight" representative. Let him show you how to get a painting job that's a "perfect fit" both physically and financially. Write.

U. S. GUTTA PERCHA PAINT COMPANY
54 Dudley Street, Providence, Rhode Island

Barreled Sunlight *Paints*

In whitest white or clean, clear, pleasing colors, there's a Barreled Sunlight Paint for every job

IT ALWAYS COSTS MORE NOT TO PAINT!

 For more information, write direct or use Reader Service post card.

GENERAL ELECTRIC "TEXTILES

Dramatically **– it presents the latest facts on these vital topics!**

Mill Modernization
...lighting, air conditioning, better acoustics, better use of color, etc.

Finer Quality Control
. . . how it is being obtained in leading mills of every type.

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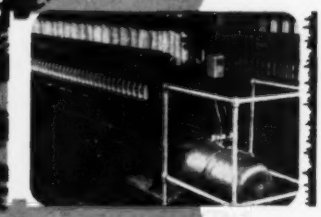
. . . individual electric drives for a wide range of machines.

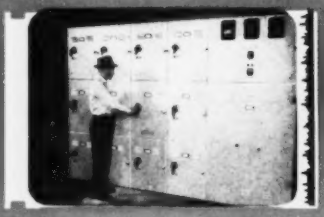
it's authentic!

Filmed under actual operating conditions in mills like yours!

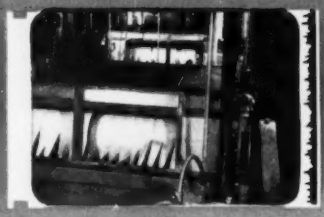
Materials Handling
. . . and the ways in which it can cut your manufacturing costs.



Higher Controlled Speeds
. . . as a way to increase the productivity of your machines.



Modern Power Distribution
. . . and the part it plays in cutting over-all production costs.



Continuous Processing
. . . two machines or twenty in one efficient, cost-cutting range.

New Processing Methods
. . . and their importance in opening new textile markets.

ANNOUNCES "UNLIMITED"

A new, full-color sound movie on

Textile Mill Modernization

PACKED WITH QUALITY-IMPROVING, COST-CUTTING IDEAS!

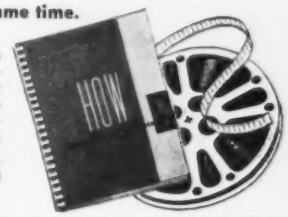
With material and labor costs up and competition tougher, you don't want to miss a single opportunity to cut your manufacturing costs and improve the quality of your product. That's why we know you'll want to see "Textiles Unlimited." General Electric's new full-color sound movie on how textile mills are modernizing.

Practically every phase of modernization is covered in this dramatic, yet highly factual presentation. Lighting, air conditioning, power distribution, machine drives, quality control—these are only a few of the pertinent subjects treated. What's more, the ideas shown *in action* are practical—this film was made in mills located in every important textile area.

Don't delay! Arrange now to see this film. Mail the coupon—we'll do the rest. *Apparatus Dept., General Electric Company, Schenectady 5, N. Y.*

Here's how you can arrange to see this movie and get a FREE MODERNIZATION MANUAL at the same time.

Mail the coupon below to let us know you would like to see "Textiles Unlimited." We'll also send you a FREE copy of "How Textile Mills Are Modernizing," a 100-page illustrated reference manual for textile mill modernization. (Additional copies at cost—$1.25)



General Electric Co.
Section H654-8, Apparatus Dept.
Schenectady 5, N. Y.

Yes—I'd like to see your new modernization movie "Textiles Unlimited." Also, please send me a FREE copy of "How Textile Mills Are Modernizing" (Bulletin GEA-4998).

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More Power to America

GENERAL ELECTRIC

For Greater Efficiency... Check These Special Features Of The NEW *Leverpak* ROVING CAN

Inner plastic rim protects sliver from abrasive action.

Clip boards are easy to insert and remove—due to inner shoulder.

Steel kicking band insures long life under hard usage.

All metal outer bottom protects can and contents from grime and grease.

Longer life, greater efficiency—these are improvements you will want to see before you place your next order for Roving Cans. And you'll find them in Continental's new LEVERPAKS.

Rigid sidewall construction of laminated kraft—no rivets—provides a smooth interior. The outer plastic coating not only resists ordinary wear-and-tear, but withstands excessive heat and humidity conditions. And note all the other construction features that add up to extra years of service.

LEVERPAKS may even reduce your labor costs. Their wider diameter (15 13/16 in.) provides greater capacity (3.8 cu. ft.). And greater capacity means smoother, more continuous machine operation.

Any way you look at it, Continental's LEVERPAK Roving Can is *Hard to Beat!*

- Bottom metal chime permits easy rolling, prevents abrasion.
- Specially treated interior safeguards against contamination.
- Top and bottom reinforcing bands are made of heavy gauge, electro-galvanized steel.

Covers and locking bands are available for inter-plant movement or temporary storage.

Outside diameter 15 13/16 in.
Standard outside height 36 inches.
Other heights available.

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New methods of continuous processing demand a coordination of materials, skill and equipment for successful operation.

Here more than ever you need a dependable de-sizing agent that will not only give you a uniformly fine finish, but help you to keep finishing troubles at a minimum.

To many men responsible for finishing and dyeing, that means *Diastafor brand de-sizing agent—Type L.*

Diastafor—Type L has the qualities that bring real flexibility and ease to de-sizing operations. You'll find Diastafor will give you exceptional results in continuous processing.

Diastafor can be used in an unusually wide range of temperatures, and in a wide pH range to meet all enzyme de-sizing requirements. It gives superb performance whether you are working with cottons, rayons or mixed goods.

Yard after yard and mile after mile, you get a good hand and a fine finish when you use Diastafor. Dyeing is even and unshaded—no streaks or blemishes. Diastafor is kind to your fabrics, too; there is never any impairment of tensile strength.

And (speaking of continuous operation!) Diastafor has been the leader in its field for more than 40 years. It has always been our aim to give you the best de-sizing agent your money can buy. For further information write Standard Brands Incorporated, *Diastafor Department*, 595 Madison Avenue, New York 22, New York.

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REVOLUTION IN TEXTILES!

How Geon polyvinyl materials are opening up huge new markets

WHEN the power loom hit the textile business last century, new, bigger markets opened up almost overnight.

Something similar is happening now with the introduction of printed film made from Geon polyvinyl resins. You get only a slight idea of the beauty of these new textiles from the picture. They can be printed in a wide color range, drape beautifully and outwear ordinary fabrics.

Because these new textiles are made from Geon they are light, easy to handle and can be cleaned with a damp cloth—no laundering necessary. They are flame-resistant and mildew-and-insect-proof. Naturally, they are creating new markets for tablecloths, draperies and other decorative uses. Sales are amazing!

These new textiles are only one example of how Geon is revolutionizing industry, for these amazingly versatile polyvinyl materials are made up into durable flooring, raincoats, dolls, garden hose, upholstery—to mention but a few products. Geon is equally versatile in the production line, for it can be calendered into film and sheeting, extruded, molded, and used as a coating for many materials.

What does Geon suggest to you as a product improver or for launching a brand new idea? If Geon has given you an idea, please write us and our technical service will be very glad to work with you. We do not make finished products but we give all the help you need in developing new ones. For further information, please write Dept. L-6, B. F. Goodrich Chemical Company, Rose Building, Cleveland 15, Ohio. In Canada: Kitchener, Ontario.

Watawal Plastic Fabric by Harte & Company, Inc., New York, N. Y.

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For more information, write direct or use Reader Service post card.

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BALL-BEARING TAPE TENSION PULLEYS

Many mills are meeting today's problem of *raising* quality and output, while *lowering* production costs, by replacing worn and stickly plain-bearing tape tension pulleys with Meadows Ball-Bearing Units.

These *Meadows Modernizers* save *power*, by preventing power loss due to gummed pulleys; save *money*, by maintaining uniform spindle speed, and eliminating rejects due to slack yarn; save *time* by eliminating tapes sliding off pulleys when starting up.

Different pulley sizes, brackets and weights to handle any frame up to heaviest cable twisting.

All Meadows Modernizers are easy to install. Write us for prices and information.

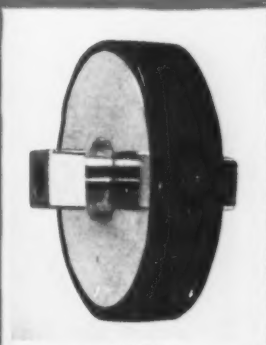
B-212R-213
For Whitin Twister. Pulley 4-5/16" dia x 2" face. Can also furnish pulley B-226, 4¼" dia x 1⅝" face.

B-214L-202
For Whitin and Saco-Lowell Spinning. Can also be adapted to other make frames by use of Meadows accessories. Pulley 3-3/16" dia x 1¼" face.

B-211R-213
For Twisting frames. Pulley 4-5/16" dia x 2" face. Can also furnish Pulley B-226, 4¼" dia x 1⅝" face.

B-205L-202
For Prince-Smith, Hall-Stell and Saco-Lowell worsted spinning. Pulley 3-3/16" dia x 1¼" face.

B-216L-202
For Mason Spinning. Pulley 3-3/16" dia x 1¼" face.



B-730-4
Drop-in Pulley for H & B Spinning. Dia 4" x 15/16" face. Can also furnish for Saco-Lowell and Whitin spinning frames.

B-275-282
Idler Pulley for Atwood Throwing. 3" dia x 2" face. Furnished for other makes of frames.

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Cost by Monte-Sano

Come to POWELL *for* ALL *your Valves*

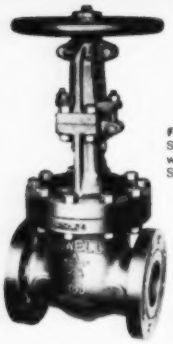


Fig. 3003—Class 300-pound Cast Steel O. S. & Y. Gate Valve.

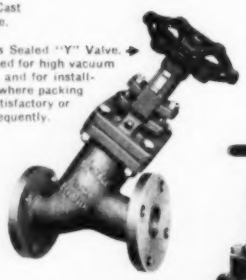
Fig. 2051 S. W.—150-pound Stainless Steel "Y" Valve with Powell Patented Seat Wiper.

There are obvious disadvantages in buying flow control equipment from several different sources. Then why get your bronze or iron valves from one place, your steel valves from another, and possibly corrosion-resisting valves from several others, when Powell *makes them all**?

This is an age of specialization; and whereas various manufacturers are emphasizing valves that meet certain flow control requirements, Powell specializes in making valves to meet *all* the demands of every branch of Industry. And there's only one standard of quality at Powell—to make the right valve to suit the service, and to make it the best.

Plants representing every branch of Industry have found that it pays to make Powell—and *only* Powell—responsible for the performance of all their flow control equipment. So why not come to Powell for all *your* valve requirements?

Fig. 1978—150-pound Stainless Steel O. S. & Y. Globe Valve.



Bellows Sealed "Y" Valve. Designed for high vacuum service and for installations where packing is unsatisfactory or fails frequently.

Fig. 241—Large 125-pound Iron Body Bronze Mounted O. S. & Y. Globe Valve.

Fig. 1847—200-pound Stainless Steel Swing Check Valve.

Flush Bottom Tank Valve. Available in two designs. Fig. 2309—disc rises into tank to open; Fig. 2310—disc lowers into body.

Fig. 559—125-pound Iron Body Bronze Mounted Swing Check Valve. Regrindable, renewable seat and disc.

Fig. 150—150-pound Bronze Globe Valve with renewable composition disc.

Fig. 1832—200-pound Stainless Steel Gate Valve.

Fig. 1708 — 200-pound Bronze Globe Valve with renewable stainless steel seat and regrindable, renewable "Powellium" nickel-bronze disc.

Fig. 375 — 200-pound Bronze Gate Valve with renewable wear-resisting "Powellium" nickel-bronze disc.

Fig. 1793—Large 125-pound Iron Body Bronze Mounted O. S. & Y. Gate Valve.

Fig. 2453-G—Large 150-pound Stainless Steel O. S. & Y Gate Valve.

*The Complete Powell Line includes Globe, Angle, Gate, Check, Relief and Flush Bottom Tank Valves in Bronze, Iron, Steel and a wide range of Corrosion-Resisting metals and alloys.

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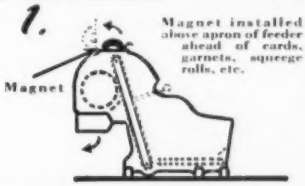
POWELL VALVES

The A-B-C's of *Eriez* Permanent Magnetic Protection for Textile Mills

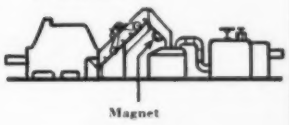
BASICALLY, there are three types of Eriez Permanent Non-Electric Magnetic Separators for the textile industry . . . Eriez Plate Magnets, Magnetic Pulleys, and Magnetic Humps. Each has been specifically designed to provide essential magnetic protection necessary in various parts of the mill. Reference to the diagrams below gives an idea of some of the more popular applications and of the Eriez methods developed to scientifically remove tramp iron. Magnetic protection, properly applied, can eliminate fire and production shutdowns—plus—damage to card and garnet clothing. The thousands of successful applications and the diversity of installations make Eriez best qualified to handle your separation problems. Have an Eriez engineer recommend the permanent magnetic equipment you need to give you complete protection against tramp iron!

A. PLATE MAGNETS

1. Magnet installed above apron of feeder ahead of cards, garnets, squeege rolls, etc.



2. Plate magnet installed in the discharge chute of a Centrif-Air Superior Cleaner.



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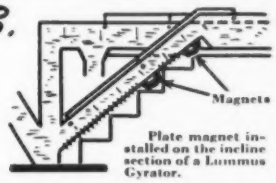
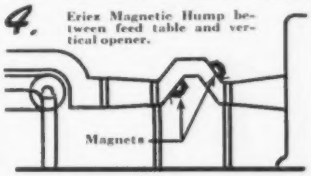


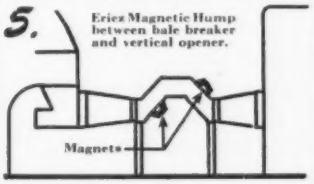
Plate magnet installed on the incline section of a Lummus Gyrator.

B. PNEUMATIC LINES

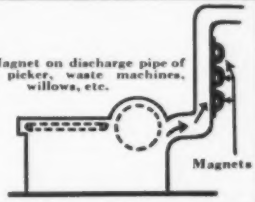
4. Eriez Magnetic Hump between feed table and vertical opener.



5. Eriez Magnetic Hump between bale breaker and vertical opener.

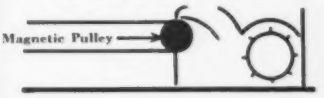


6. Eriez Magnet on discharge pipe of mixing picker, waste machines, willows, etc.

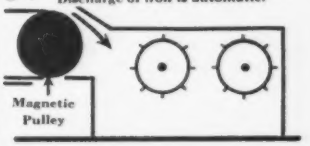


C. MAGNETIC PULLEYS

7. Eriez Magnetic Pulley installed in feed table protects vertical opener from tramp iron.



8. Magnetic pulley installed as head pulley on conveyor feeding cleaner. Discharge of iron is automatic.



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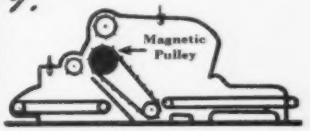

H & B Bale Breaker showing location of magnetic pulley on spiked apron.

Eriez Non-Electric Permanent Magnets Give You These *Advantages*

1. Superior Cleaning Ability. 2. No Wiring for Electric Current Needed . . . No Coils To Burn Out. 3. Cool Running . . . No Loss of Magnetism Through Heating Up. 4. Not Affected by Moisture or Wet Materials. 5. No Operating Costs . . . First Cost is Last Cost. 6. Minimum Installation Cost. 7. Simple . . . Powerful . . . Permanently Magnetized. 8. Uninterrupted Operation . . . Top Efficiency Always. 9. Easily Installed in Original Equipment.

Pioneer of PERMANENT Magnetic Separation

Thomas Chemical Engineering Catalog

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JANUARY 16-17, 1950

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confidence

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We have stocks for immediate delivery, including No. 2B Finish Sheets and No. 4 Finish Sheets of uniform quality. And we have bars, meeting high standards of machinability; plates up to 120″ wide and 360″ long. Besides, we carry large stocks of welded and seamless tubing, pipe, angles, channels, welding electrodes in all standard grades and specifications.

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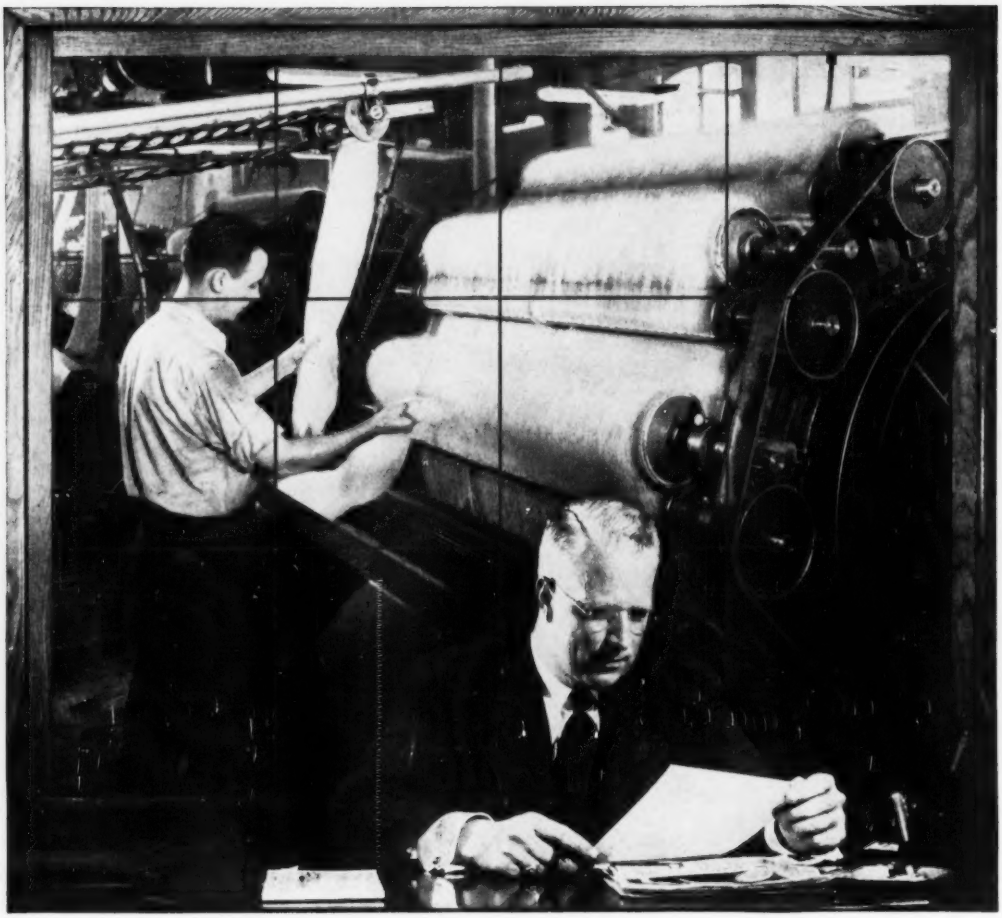

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If there is a doubt in your mind, call in a Howard Bros. representative, a TUFFER man. He'll make a thorough analysis of your problems and give you valuable assistance in increasing the efficiency and in lowering the costs of your carding. Put his training and experience to work for you!

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A-8

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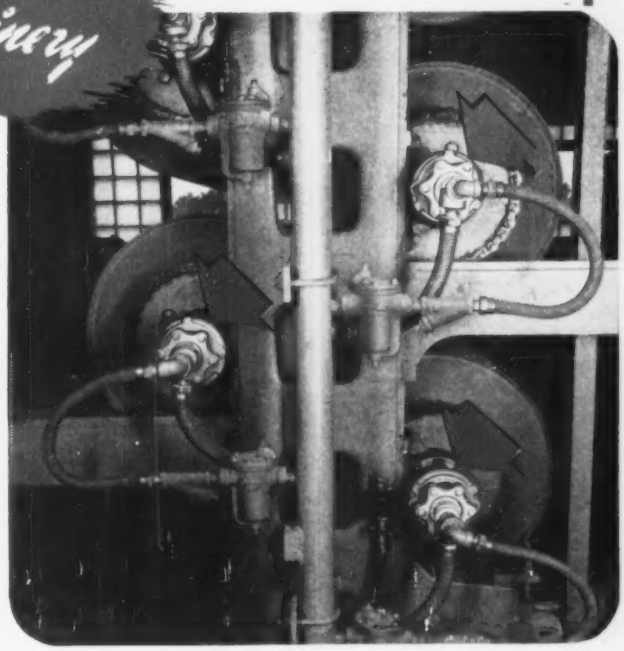
the final touch to fine machinery

JOHNSON JOINTS on Butterworth Dry Cans

Butterworth chain-driven dry cans, with Johnson Joints offered as standard equipment. This type of joint mounting permits flexible hose for steam and condensate connections, to eliminate any pipe strains.



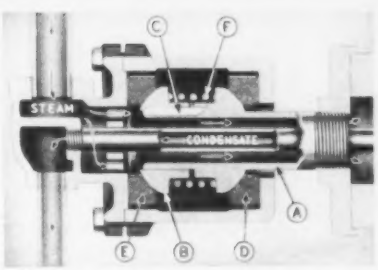
Everyone in the industry recognizes that Butterworth has long helped to set the pace in textile machinery.

And Butterworth has long recognized that Johnson Joints set an entirely new pace . . . that they help bring out the full measure of efficiency and dependability designed into the finest machinery. That's why you'll find Johnson Joints now, as for many years, offered as standard equipment on the Butterworth Dry Cans pictured here.

Johnson Rotary Pressure Joints were designed to take over where the ordinary stuffing boxes fall short. They knock for a loop all the troubles and up-keep expenses; reduce time-out for repairs; promote more efficient roll drainage; boost over-all efficiency as nothing else can.

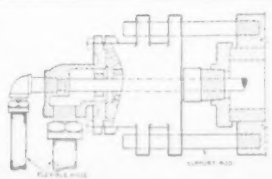
If you haven't installed Johnson Joints in your mill, take a tip from Butterworth, and all the other machinery manufacturers who agree almost unanimously on this point. Give your slashers, dry cans and sanforizers this finishing touch and you're money ahead, with all stuffing box troubles behind you.

Write for new literature



JOHNSON ROTARY PRESSURE JOINT

Nipple (A) is connected to roll or drum. Sliding collar (B) is keyed to nipple at (C), but slides over it loosely so pressure can fill entire housing. This pressure becomes the sealing force, presses seal ring (D) tightly against nipple. Both seal ring and bearing (E) are of special carbon graphite which eliminates oiling and packing. Spring (F) is for initial seating only.



Types, Sizes for all Needs

Drawing shows Type L Johnson Joint, which has lugs cast on body to provide simple rod support. The complete range of types and sizes cover all service conditions, every installation requirement.

Product of The Johnson Corporation

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DIRECT OPERATED SOLENOID VALVES • "INSTANT" STEAM WATER HEATERS

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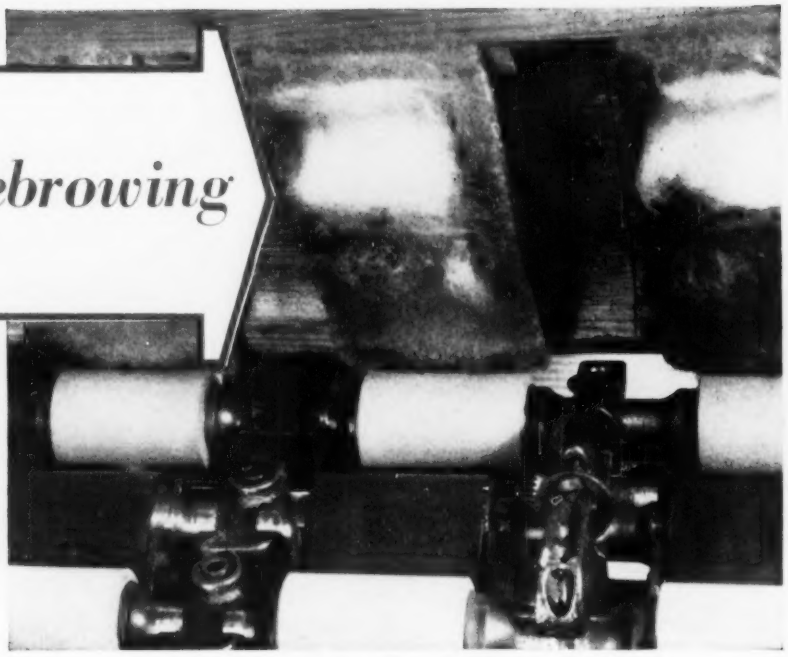
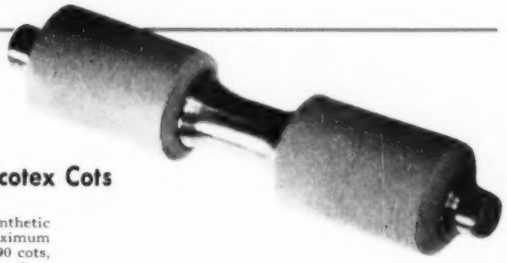
Less eyebrowing



Waste is packed tight by high-friction cork particles

...when CORK is added

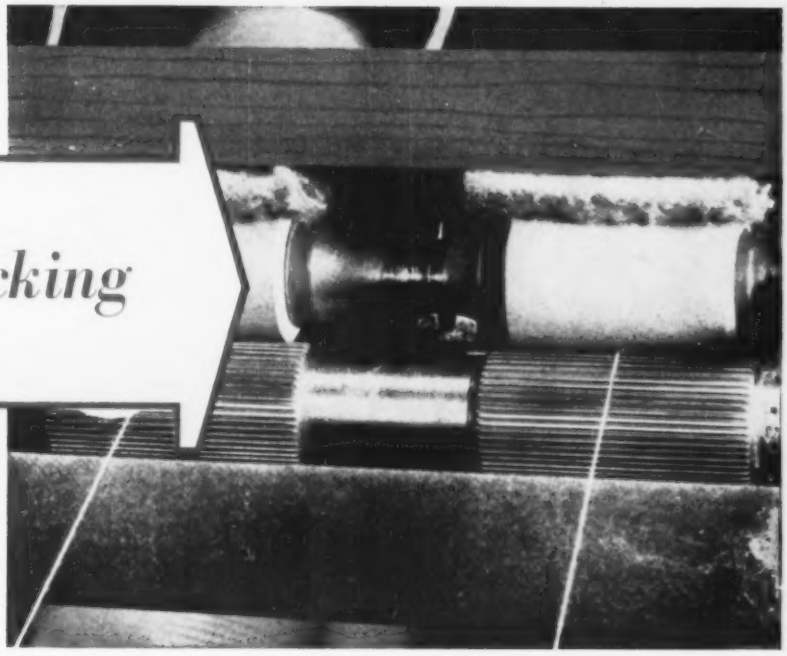


For maximum lap resistance—J-490 Accotex Cots

This plain synthetic covering is especially useful where synthetic fibers are run on cotton system equipment or wherever maximum lap resistance is required. After long initial service life, J-490 cots, like all Accotex Cots, can be rebuffed five or six times. For best results use J-490 with revolving clearers.

Whether you are spinning cotton, wool, or synthetic fibers, Armstrong can supply you with a cover especially formulated for the job. These covers are available for export.

ACCOTEX COTS
CORK COTS



Less slicking

to ACCOTEX RUBBER

Adding cork to Accotex® rubber makes Armstrong's NC-727 Accotex the synthetic cot that reduces eyebrowing and resists slicking. In NC-727, thousands of cork particles dispersed throughout the rubber give added friction that tends to pack loose fibers back on the clearers. And these cork particles provide the type of surface that retards slicking.

This slick-resistant surface has excellent drafting qualities. It grips the yarn firmly and evenly and drafts a consistently strong, uniform yarn.

In addition, Accotex NC-727 Cots greatly reduce lapping. Like all Accotex formulations they contain electrolytes. Electrolytes eliminate the attraction between fiber and cot that is a cause of lapping.

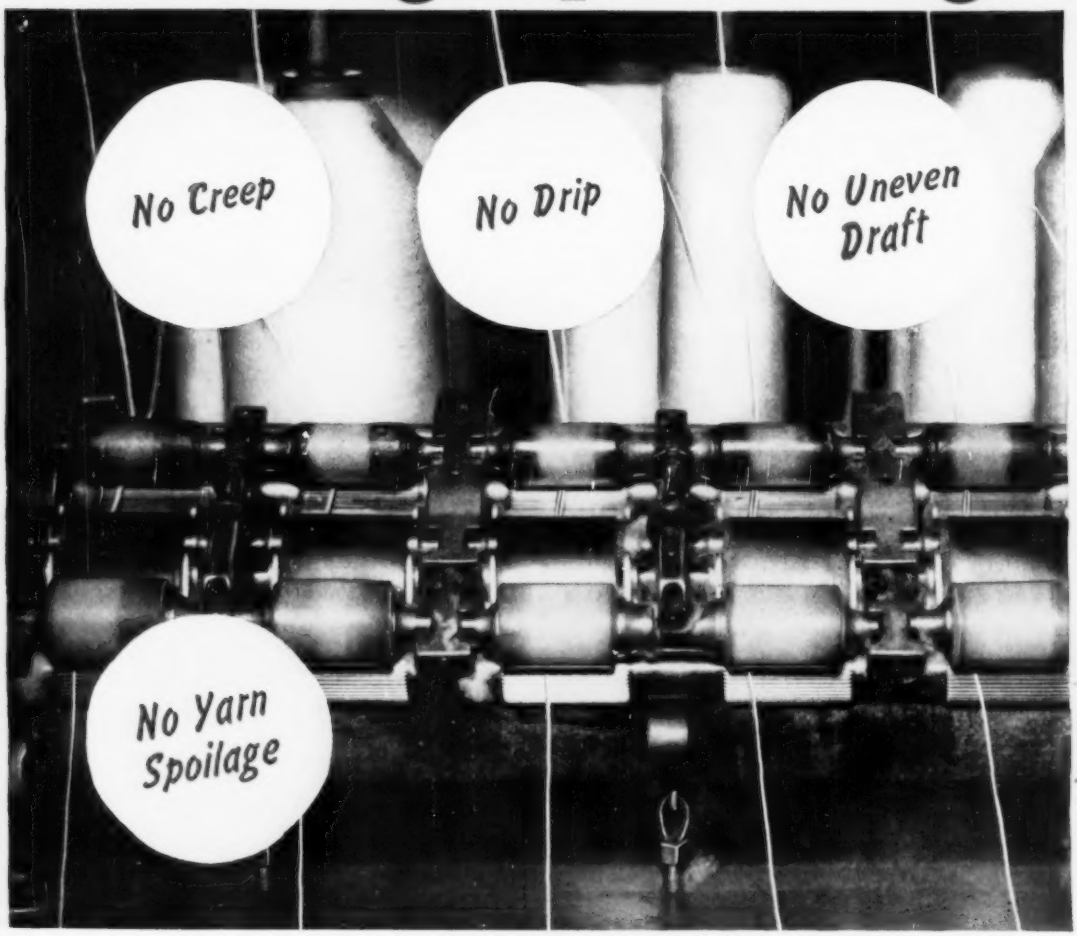
Accotex Cots are nonsweating, too, even in humid weather. They are not affected by oils, water, dyes, changes in temperature and humidity, nor the solvents commonly used in the textile industry.

This combination of long-lasting rubber and smooth-drafting cork helps produce quality yarn at low cost. Your Armstrong representative will gladly arrange a test installation of NC-727 Accotex Cots in your own mill. Call him today. Or write Armstrong Cork Company, Textile Products Department, 8312 Arch Street, Lancaster, Pennsylvania. Available for export.

ARMSTRONG'S ACCOTEX COTS

 For more information write direct or use Reader Service post card.

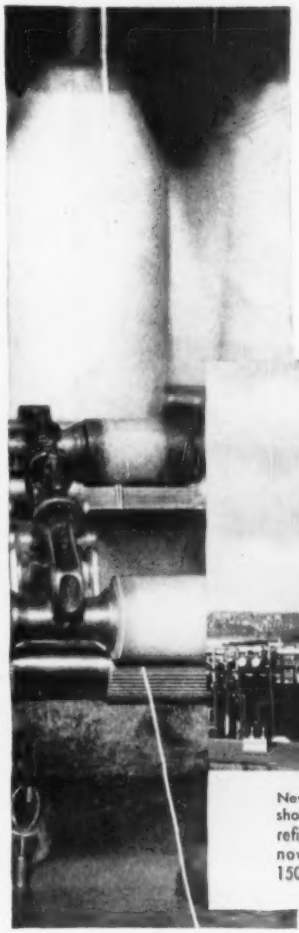
Sinclair NO-DRIP 4 Big Spinning



SINCLAIR

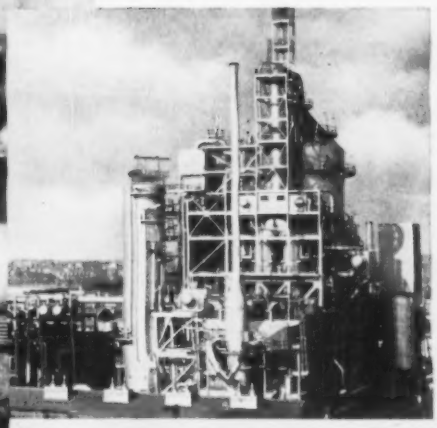
YOUR NEAREST SUPPLIER OF SINCLAIR PRODUCTS WILL GLADLY ARRANGE

LUBRICANT Solves Room Problems



In the spinning room, production may be retarded unless the top rolls are lubricated properly. The problem is to provide adequate lubrication while avoiding creeping of the lubricant or drip onto bottom rolls. A lubricant spreading onto the roll cots will spoil the covering and stain the yarn.

Sinclair NO-DRIP Lubricants have the correct combination of properties to provide desired performance. They reach all the parts where lubrication is needed—*but they do not stray away.*

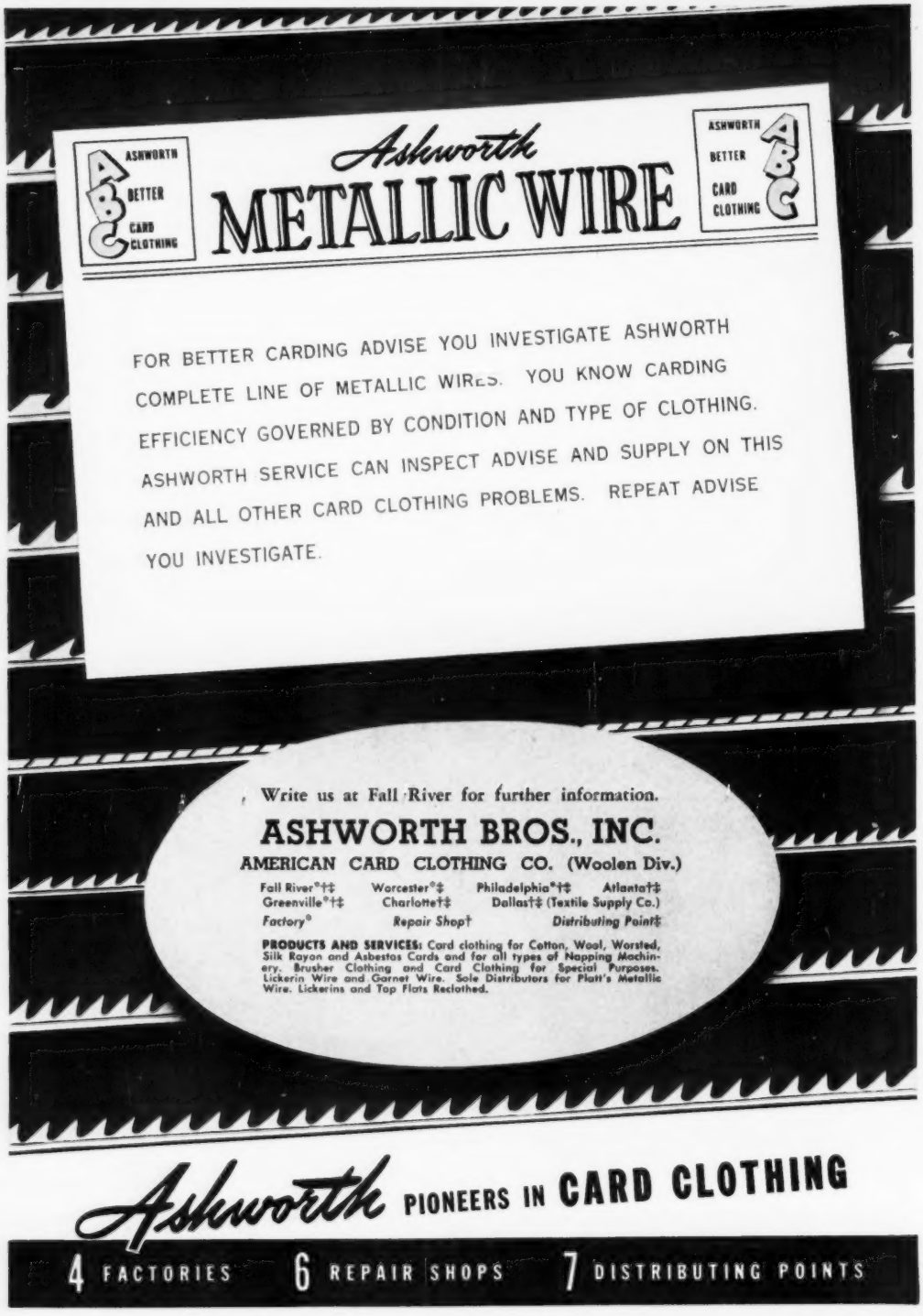


New Fluid Catalytic Cracking Stills (like the one shown here) are helping to expand Sinclair's refinery output. Sinclair's great refineries are now turning out products at the rate of 150,000,000 gallons of lubricating oil yearly.

About 40% of all the Aircraft Engine Oil used by domestic Airlines in the U.S.A. is supplied by SINCLAIR. The same careful research that developed this high quality oil for the Airlines is put into NO-DRIP and other Sinclair Oils.

TEXTILE LUBRICANTS

FOR LUBRICATION COUNSEL, OR YOU MAY WRITE TO SINCLAIR REFINING COMPANY, 630 FIFTH AVE., NEW YORK 20, N. Y.


ABC
ASHWORTH
BETTER
CARD
CLOTHING
Ashworth
METALLIC WIRE
ASHWORTH
BETTER
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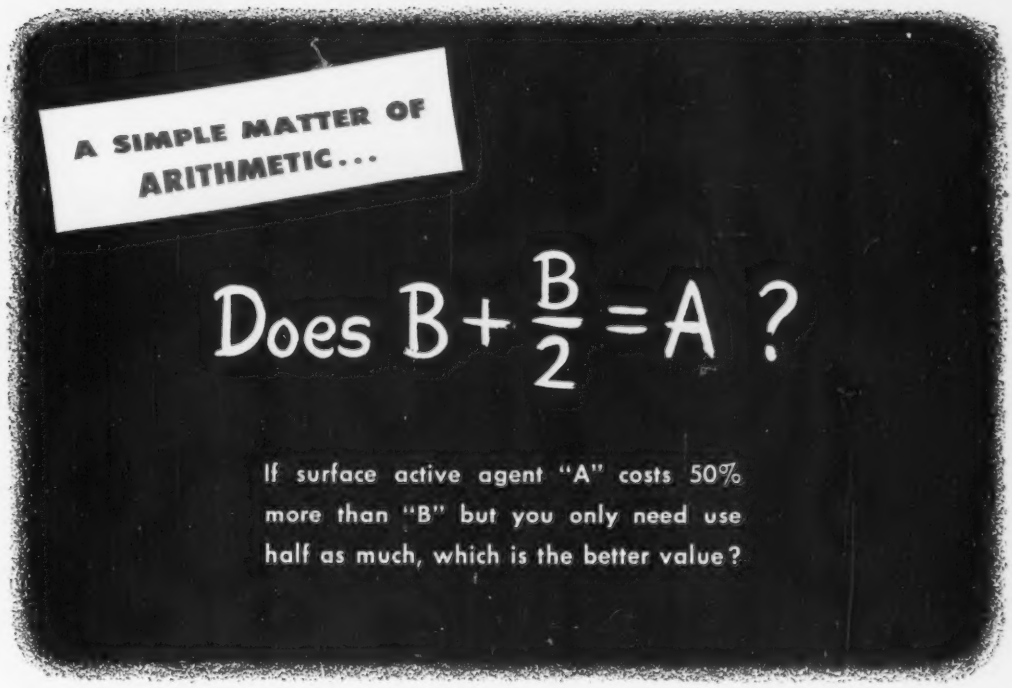
CLOTHING
ABC
FOR BETTER CARDING ADVISE YOU INVESTIGATE ASHWORTH COMPLETE LINE OF METALLIC WIRES. YOU KNOW CARDING EFFICIENCY GOVERNED BY CONDITION AND TYPE OF CLOTHING. ASHWORTH SERVICE CAN INSPECT ADVISE AND SUPPLY ON THIS AND ALL OTHER CARD CLOTHING PROBLEMS. REPEAT ADVISE YOU INVESTIGATE.
Write us at Fall River for further information.
ASHWORTH BROS., INC.
AMERICAN CARD CLOTHING CO. (Woolen Div.)
Fall River°†‡ Worcester°‡ Philadelphia°†‡ Atlanta†‡
Greenville°†‡ Charlotte†‡ Dallas†‡ (Textile Supply Co.)
Factory° Repair Shop† Distributing Point‡
PRODUCTS AND SERVICES: Card clothing for Cotton, Wool, Worsted, Silk Rayon and Asbestos Cards and for all types of Napping Machinery. Brusher Clothing and Card Clothing for Special Purposes. Lickerin Wire and Garnet Wire. Sole Distributors for Platt's Metallic Wire. Lickerins and Top Flats Reclothed.
Ashworth PIONEERS IN CARD CLOTHING
4 FACTORIES 6 REPAIR SHOPS 7 DISTRIBUTING POINTS


A SIMPLE MATTER OF ARITHMETIC...
Does $B + \frac{B}{2} = A$?
If surface active agent "A" costs 50% more than "B" but you only need use half as much, which is the better value?

Don't let low prices fool you—
"A" is the better buy!

Suppose "B" is 30 cents a pound; "A" at 50% more would be 45 cents. But, you use half as much of A as of B to get identical wetting speed, so a half-pound of "A" at 22½ cents will do the same job as well and as quickly as a pound of "B" at 30 cents—a clear saving of 7½ cents.

That comparison holds true in principle for Houghton's SURFAX 1288, which is less than 45 cents, but a far more efficient product than so many on the market which may be priced lower. • Use 1288 for faster wetting and rewetting of textile yarns and fabrics. Use it in neutral, mild acid or mild alkaline solutions. Use it for leveling dye baths, for package dyeing, for preparing fabrics for compressive shrinkage. And— • use *less* of it, because it's concentrated. • Write for Product Data Sheet and price of this newest member of Houghton's Surfax series. E. F. HOUGHTON & CO., 303 W. Lehigh Ave., Philadelphia 33, Pa.

1288 SURFAX

 For more information, write direct or use Reader Service post card.

BUCK CREEK Modernizes with...

H&B TEXTILE MACHINERY

Buck Creek Cotton Mills of Siluria, Ala., recently completed a $1,500,000 program of enlargement and modernization. Most of the modernizing was done with H & B textile machinery.

This mill, established in 1898, employs 600 people and makes soft filled sheetings and flannels, using coarse and medium count cotton yarns.

New major H & B equipment installed in this mill includes 13 Blending Feeders, a 30" Cylinder Beater with Double Cage Section, 36 Model B Filling Spinning Frames and 4 Model B Warp Spinning Frames. All frames are equipped with the H & B Casablancas High-Draft System which can spin a wide range of counts from single or double roving.

The blending and opening room is of particular interest in that one unit employs a line of seven blending feeders feeding onto a delivery lattice which in turn feeds into a Superior Cleaner, a 30" cylinder beater and double cage section, then through a second Superior Cleaner. This installation is designed to give Buck Creek the best in opening and cleaning efficiency.

More production per man-hour—through modernization. That's Buck Creek's answer to today's high cost of materials and manpower. Why not make it *your* answer. Let's talk it over.

H&B AMERICAN MACHINE CO.

Builders of Modern Textile Machinery

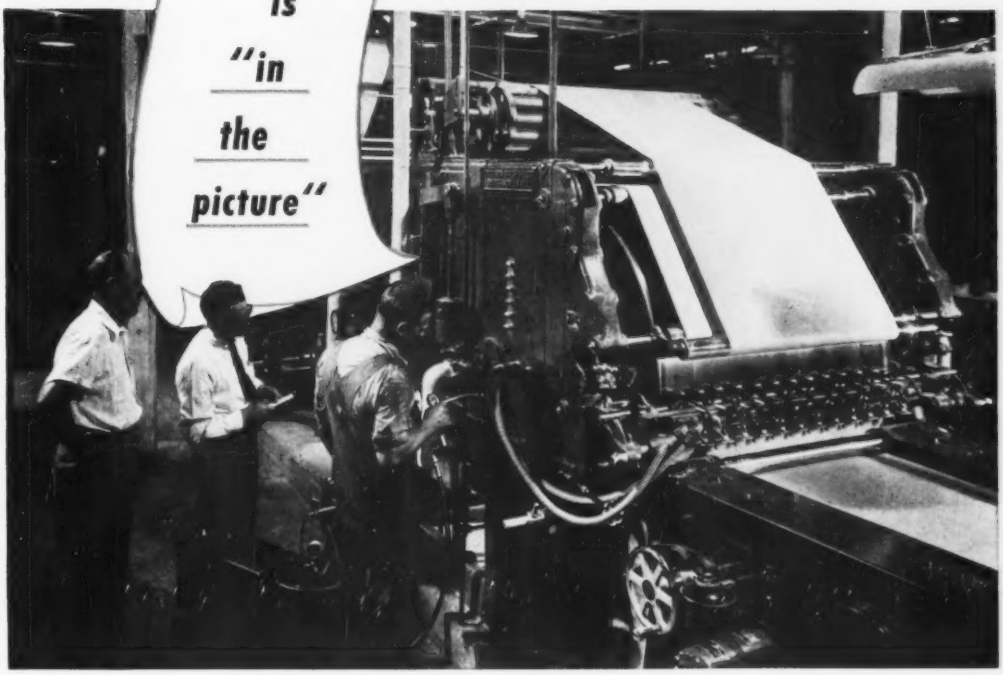
FACTORY, EXECUTIVE OFFICES AND EXPORT DIVISION—PAWTUCKET, R. I., U. S. A.

BRANCH OFFICES: Atlanta, Ga.—813 Citizens and Southern National Bank Bldg.; Charlotte, N. C.—1301 Johnston Bldg.

For more information, write direct or use Reader Service post card.

LOWER MAINTENANCE EXPENSE IN THE FINISHING PLANT

when the GULF LUBRICATION ENGINEER is "in the picture"



Proper lubrication smooths the way to lower maintenance costs for every type of textile equipment, insures better performance. If you feel there is room for improvement in your lubrication practice, enlist the cooperative services of a Gulf Lubrication Engineer.

With a background of thorough training and broad practical experience, he can be of real assistance to you.

He will recommend the lubricants and application methods exactly suited to your equipment and operating conditions. Then, periodically, he will check the performance of each machine and suggest any changes that are necessary to provide for new conditions.

This kind of lubrication service has a real dollar and cents value to you. Write, wire, or phone your nearest Gulf office today and ask the Gulf Lubrication Engineer to call.

GULF MAKES AVAILABLE TOP QUALITY PASSENGER AND TRUCK TIRES — ASK YOUR GULF REPRESENTATIVE

Gulf Oil Corporation · Gulf Refining Company

Offices in Principal Cities in 30 States

GULF INDUSTRIAL LUBRICATION

WIPE OUT STATIC

from Your Production Picture with NOPCO* 1656-R the antistatic oil that assures better WORSTED production

Today, when speeded-up processes in worsted yarn manufacture tend to promote static, you'll find Nopco 1656-R an ideal trouble killer.

Fibers treated with this specifically formulated oil remain static-free throughout carding, gilling, combing and drawing operations.

You'll avoid "wild" and broken ends, produce even-running, quality yarn with this new, antistatic lubricant.

Nopco 1656-R also ***eliminates*** oxidation, and ***reduces*** soap costs 75%. In fact, this remarkable new oil enables the worsted manufacturer to obtain exceptionally good results—comparable to those achieved by users of famous Nopco FUA oil for processing wool.

Yes, Nopco 1656-R means HIGH QUALITY WORSTED YARNS PRODUCED ECONOMICALLY . . . and in these competitive days what is of more importance to you?

Ask your Nopco representative for full details, or write today for complete information.

NOPCO TRADEMARK EVOLVED THRU RESEARCH

NOPCO CHEMICAL COMPANY

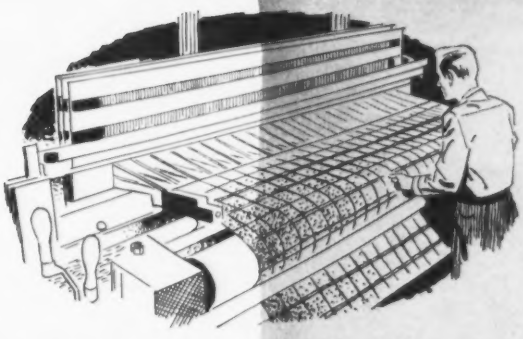
Formerly National Oil Products Company

HARRISON, NEW JERSEY

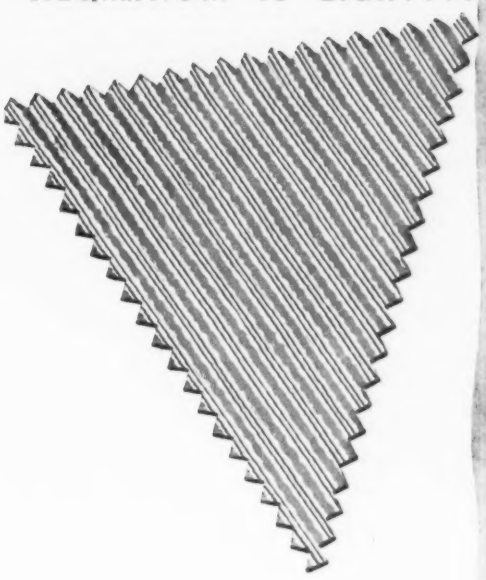
Branches: Boston • Chicago • Cedartown, Ga. Richmond, Calif.

* Reg. U. S. Pat. Off.

For more information, write direct or use Reader Service post card.



ALUMINUM IS LIGHT.... ALUMINUM IS STRONG



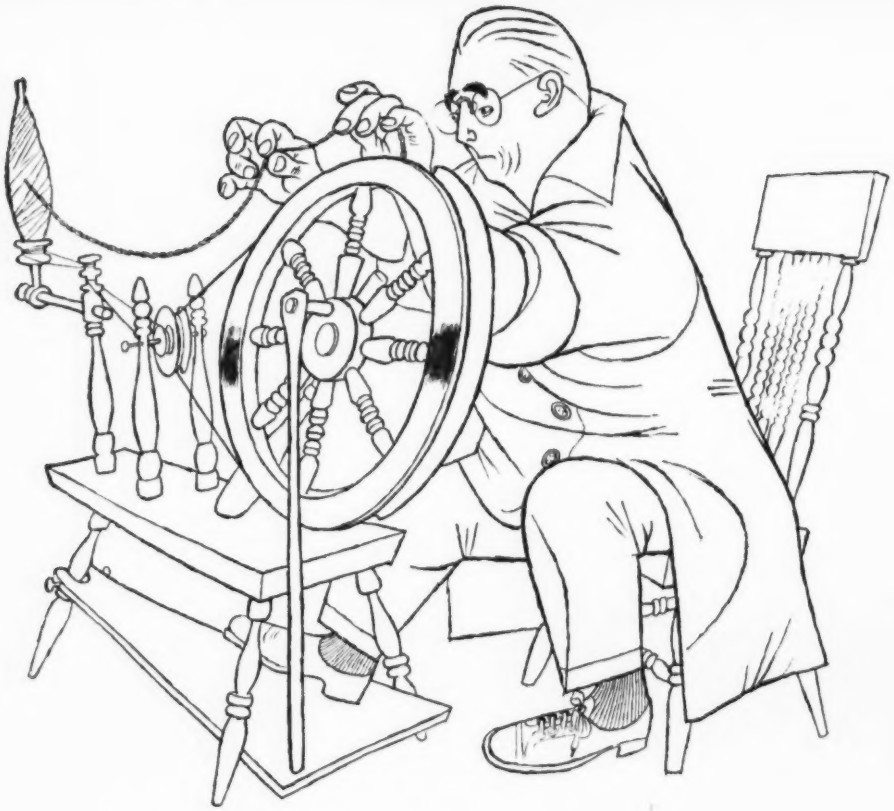
Consider these facts in terms of a loom

When moving parts are Alcoa Aluminum, they start fast...change direction fast. Their light weight makes motion more uniform and reduces vibration. How about strength? Aluminum parts take hard knocks without breaking... Your looms last longer.

Look for aluminum in the next looms you buy. It promises a production bonus. And if you build textile machinery, Alcoa's Development Division has all the answers on alloy selection plus design and fabrication information to help you start planning. Write ALUMINUM COMPANY OF AMERICA, 1942M Gulf Building, Pittsburgh 19, Pennsylvania.

ALCOA ALCOA ALUMINUM ® **ALUMINUM • MAGNESIUM**

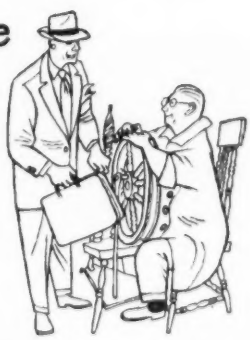
INGOT • SHEET & PLATE • SHAPES, ROLLED & EXTRUDED • WIRE • ROD • BAR • TUBING • PIPE • SAND, DIE & PERMANENT MOLD CASTINGS • FORGINGS • IMPACT EXTRUSIONS
ELECTRICAL CONDUCTORS • SCREW MACHINE PRODUCTS • FABRICATED PRODUCTS • FASTENERS • FOIL • ALUMINUM PIGMENTS • MAGNESIUM PRODUCTS



If you make textiles...

(No matter how you make them, you need detergents.)

the Armour man is the man to see because he has more different soaps and synthetics than anybody!



(He's bound to have just the ones you need. Write him today.)

ARMOUR *Industrial Soap Division*

Armour and Company • 1355 West 31st Street • Chicago 9, Illinois

For more information, write direct or use Reader Service post card.

One of a series painted for Rodney Hunt by Ben Stephenson

FAMOUS FINISHES . . *The schooner "America" entered the Royal Yacht Squadron Regatta for the first time in 1851 and astonished the English by finishing the course 14 minutes ahead of her closest competitor. She greatly outdistanced the other 17 entries in the race around the Isle of Wight and easily held her lead to the finish line.*

THE Spring City Bleach & Dye Works gets top rating when it comes to "famous finishes" in the field of knit fabrics. At Spring City, Pa., you'll find one of the country's largest cotton knit goods finishing plants, as modern as today. And here you'll find a Rodney Hunt Bleaching Range as a major production unit. Rodney Hunt pioneered in the development of the bleaching range equipment that today is a "must" in modern finishing plants. Please turn the page for more specific information about "Finishing for Profit."

RODNEY HUNT

RODNEY HUNT

Established 1840

ORANGE 10, MASSACHUSETTS, U. S. A.

"Tensitrol," "Tru-Shade," "Slack Loop," "Wring-Master," and "Curve-of-Strength" are registered trade marks identifying textile finishing machinery manufactured exclusively by Rodney Hunt Machine Co.

Finishing For Profit

RODNEY HUNT

Established 1840

RODNEY HUNT MACHINE CO.

ORANGE 10, MASSACHUSETTS, U.S.A.

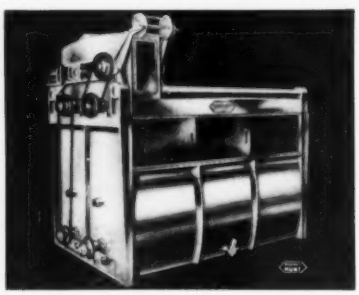
"Tensitrol" Takes the Trouble Out of Washing

Is your production too small to warrant a Continuous Bleaching Range? The "Tensitrol" Rope Washer still has a place in your plant.

A large southern textile plant, after thoroughly testing one of the Rodney Hunt "Tensitrol" Rope Washers, ordered 20 of these washers for their plant to install in their continuous bleaching ranges.

While installing these machines, staggering the installations so as not to cut down production, it was decided to try out the "Tensitrol" in one of the most difficult washing operations that they encounter — washing out after the kier bleach of 90" wide, 1 yard to the pound, sheetings. The results speak for themselves.

Speed	*Gal. water per minute*	*Caustic content after washing*
330 yds./min.	40 – 60	No traces

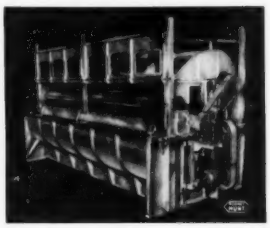


Rodney Hunt "Tensitrol" Rope Washers maintain their phenomenal washing ability at any range of speed — high or low — prove that complete tensionless operation is a reality instead of a dream, reduce horsepower requirements and cut water consumption.

We quote the General Superintendent of Finishing of this southern plant, "Best washer I have ever seen — I just forget they are running — no trouble — operating on 40 to 60 gallons of water a minute."

If you have a washing problem — notify Rodney Hunt.

Lace Finishers Praise "1000" Dye Beck



The "1000" Type Dye Beck pictured here is being praised by lace finishers all over the country for ease of operation, remarkable washing of lace free of graphite and low maintenance costs.

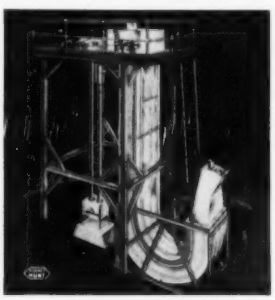
This machine, equipped with squeeze rolls for penetration of solvents in aiding the washing operations, and with overflow slots for speed in rinsing, is the latest design and most modern of machines for scouring lace piece goods.

As one large finisher of lace goods remarked, "It has cut my operating time in half and my maintenance cost to nothing. Best machine I have ever used."

If you have a washing problem — tell Rodney Hunt.

* * *

J-Box Details



In the DuPont type J-Box pictured, and also in the Becco type, important improvements have been made by Rodney Hunt in the location of drive mechanisms for the oscillating poteyes and in the design of the lower part of the box.

In place of the usual reversing screw mechanism, an exceptionally durable cam action is used and removed entirely from the steam atmosphere so that all lubrication points are easily accessible. A special feature of this patented mechanism allows quick adjustment of the length of stroke transmitted to the oscillating poteye for precise platting action.

The lower part of the J-Box is redesigned to a gradual curve, thereby preventing any jams of the fabric as it leaves the upright section.

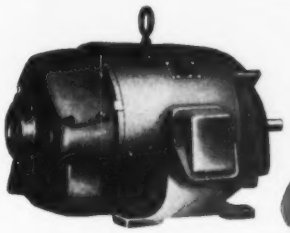
* * *

If further information is desired on the above subjects, please address your inquiries to the Rodney Hunt Machine Co., Orange 10, Massachusetts, U.S.A.

COPYRIGHT 1949 RODNEY HUNT MACHINE CO.

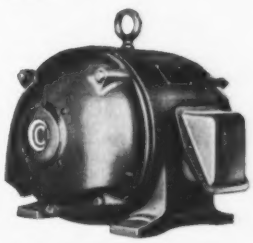
Wherever Splashing Liquids Create a Hazard...

Specify a Century SPLASH PROOF Motor



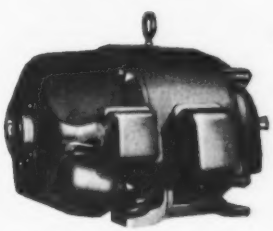
Century 7½ HP type RS Repulsion Start Induction Brush Lifting Splash Proof Motor

1 to 7½ HP Direct Current Splash Proof Motor

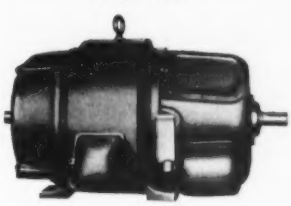


1 to 30 HP Squirrel Cage Induction 3 Phase Splash Proof Motors

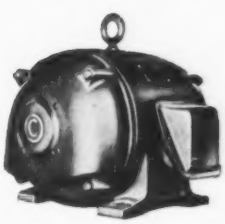
40 to 100 HP Squirrel Cage Induction 3 Phase Splash Proof Motors



3 to 25 HP Slip Ring Induction 3 Phase Splash Proof Motors



30 to 100 HP Slip Ring Induction 3 Phase Splash Proof Motors



1 to 20 HP Capacitor Start Induction Single Phase Splash Proof Motor

Century Splash Proof motor frames keep the vital parts of the motor dry—even when the full force of water from a hose is turned directly on it.

Century Splash Proof motors may help to protect the reputation of the machines you build through the protection provided in their construction—against splashing liquids, plant wash downs or falling solids.

Century Splash Proof motors are available in a wide range of types and sizes and electrical characteristics for all popular applications.

In addition, Century builds a complete line of various types of electric motors in sizes from 1/6 to 400 horsepower. Popular types and ratings are available from factory and branch office stocks.

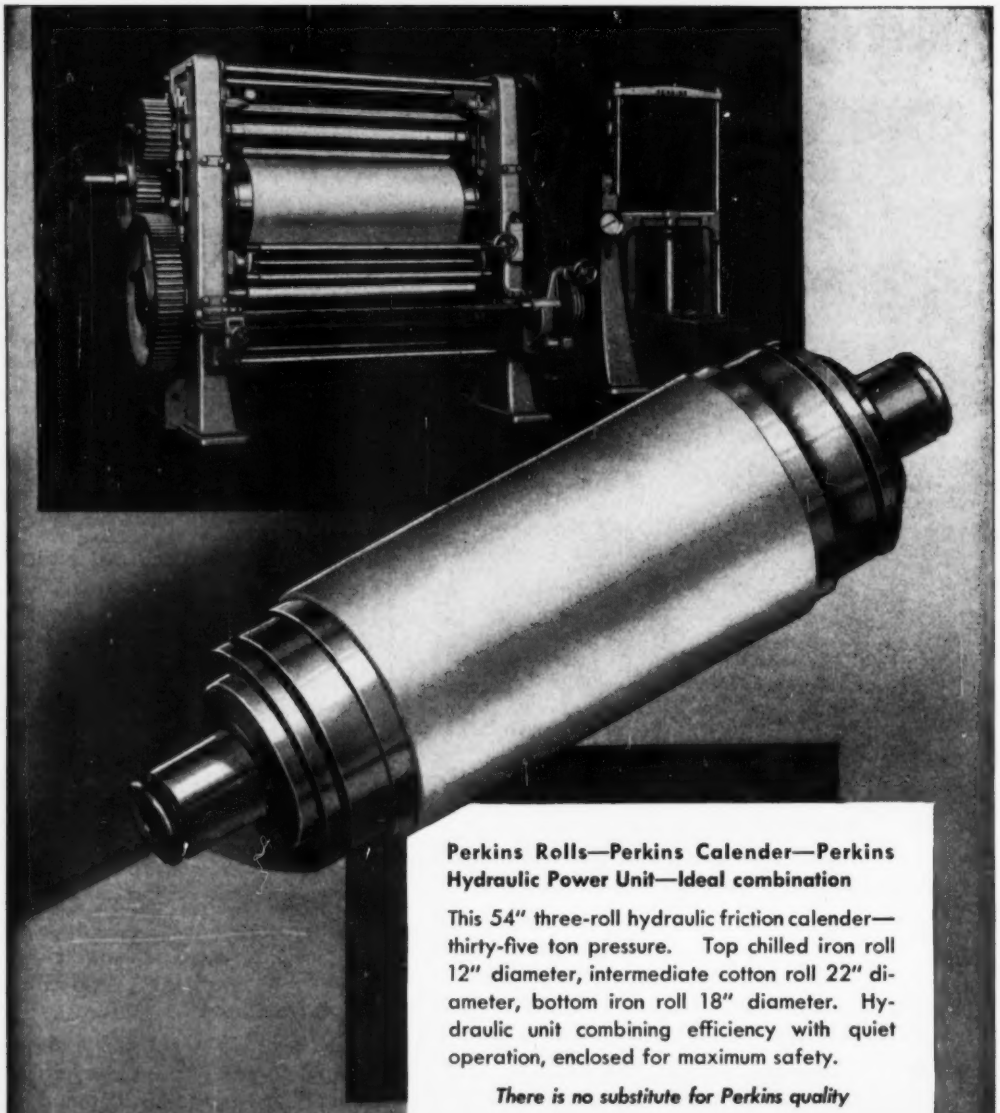
Specify Century motors for all your electric power requirements.

CENTURY ELECTRIC CO.
1806 Pine Street
St. Louis 3, Missouri

Offices and Stock Points in Principal Cities

Century C MOTORS

536



Perkins Rolls—Perkins Calender—Perkins Hydraulic Power Unit—Ideal combination

This 54" three-roll hydraulic friction calender—thirty-five ton pressure. Top chilled iron roll 12" diameter, intermediate cotton roll 22" diameter, bottom iron roll 18" diameter. Hydraulic unit combining efficiency with quiet operation, enclosed for maximum safety.

There is no substitute for Perkins quality

B. F. PERKINS & SON, Inc.

ENGINEERS AND MANUFACTURERS

HOLYOKE, MASS.

LARGEST MANUFACTURERS OF CALENDER ROLLS IN THE WORLD

Are YOU – 'On the Fence'

about wool shrinkage-control and washability?

WASHABLE GARMENTS ARE FAST BECOMING A MUST IN ALL THINGS WOOLEN

You, as a Producer of Woolen or Worsted Yarns, Fabrics, or Garments, cannot afford to miss the Passing Parade—BUT—What Process should you specify or use ????????

Wool, as you know, is a "live" fibre.

Great care must be exercised in every processing of it, especially wet processings, so that the treatment applied, to incorporate the additional desirable values, does not rob, reduce, or destroy its desirable properties, i. e., tensile strength, resiliency, elasticity, recoverability, elongation, hand or feel, and weight,—the *natural* properties make wool the wonderful fabric that it is.

"Schollerizing"* maintains or enhances all of these properties—and controls permanent shrinkage to less than 2%.

What more could be asked of any Process ?????

A test on your product is convincing.

*U. S. & Foreign Patents Pending

Write Today for Full Details On the Amazing Scholler Wool Shrinkage-Control Process applied to your product.

Schollerized
WASHABLE WOOL
SAFE TO TUB • SAFE TO RUB

Application of Schollerizing is simple and flexible . . . it can be applied at any stage of manufacture.

SCHOLLER BROTHERS, INC.

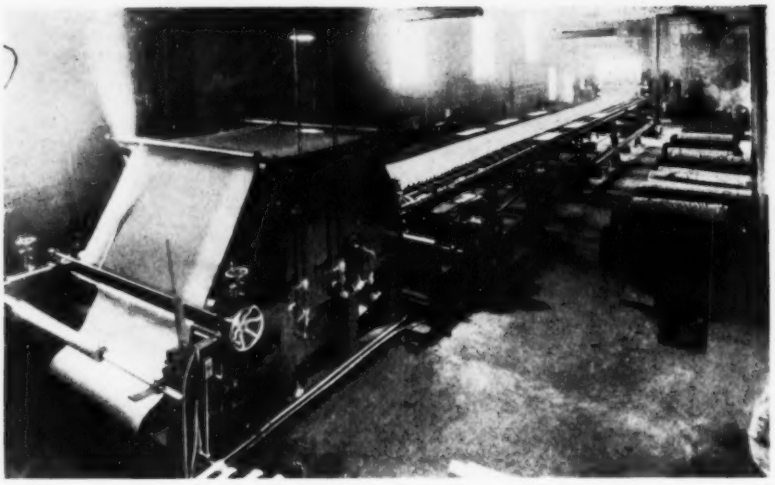
Manufacturers of Scouring, Dyeing and Finishing Materials

COLLINS at WESTMORELAND, PHILADELPHIA 34, PA.

IN CANADA: SCHOLLER BROTHERS, LTD., ST. CATHARINES, ONTARIO

SERVING THE TEXTILE INDUSTRY FOR MORE THAN FORTY YEARS

Get Faster, Better Production with HINNEKENS' NEW....



PALMER - TENTER UNIT

Here are some of the features, many of them exclusive, that assure faster, more uniform production, with less steam, and practical elimination of troubles due to mechanical or human causes.

THE PADDER

The two roll air operated Padder for 3 to 12 tons pressure, with double Foxboro control panel for individual control of each end of roll. Included is our Patented (2373027) Roll Equalizing Device that eliminates the possibility of rolls wearing taper on ends. Both rubber rolls mounted on heavy duty antifriction bearings.

THE TENTER FRAME

The tentering frame has stainless steel opening and closing screws. The rails are mounted on stainless steel opening and closing plates. The Hinnekens Patented Clip with stainless steel plates and stainless steel knives and chrome-plated controllers is standard equipment.

THE PALMER

Has a 60" diameter jacketed stainless steel drying cylinder, and a 20" diameter stainless steel blanket drying cylinder. There are two Reeves variable speed transmission drives for the reduction unit and padder. A third is used to give infinite adjustment between the outlet of the tentering frame and the Palmer Unit.

An important feature of the PALMER-TENTER Unit is that full operating temperature can be reached in five minutes from a cold start, instead of taking up to an hour as with ordinary equipment. This means lower steam consumption.

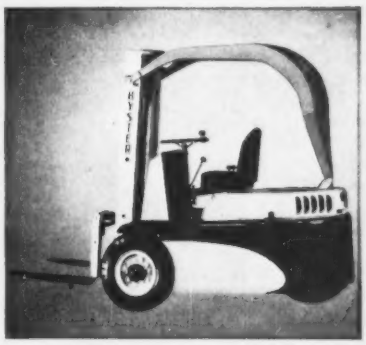
Send for a point by point description of this unique Palmer-Tenter Frame Unit.

THE HINNEKENS MACHINE CO., INC.

199 GODWIN AVENUE **PATERSON, NEW JERSEY**

THE BEST LIFT TRUCK FOR INSIDE WORK

Inside your plant with a HYSTER® LIFT TRUCK



The complete Hyster line of trucks—7 models (2,000 lb. to 30,000 lb. capacity) are gasoline powered; all are equipped with pneumatic tires. Illustrated at top of page is Hyster 20; above, Hyster 40.

Saves Floors...Cuts Maintenance Costs. More Speed, More Traction, More Maneuverability.

The Hyster Pneumatic Tire "Easy Ride" is easy on floors—easy on the load—engineered for greater maneuverability in narrow aisles and crowded warehouse spaces. HYSTER IS THE IDEAL LIFT TRUCK FOR INSIDE WORK.

Big PNEUMATIC TIRES CUT DOWN FLOOR SURFACE REPAIRS, practically eliminate damage to costly floors. TRACTION and RAMP CLIMBING ability is increased. Operator fatigue is reduced.

Your Hyster Distributor will demonstrate a Hyster 20 (2,000 lb. capacity) or a Hyster 40 (4,000 lb. capacity) for your *inside and outside* materials handling jobs. You can check your own savings. SEE FOR YOURSELF or write for literature.

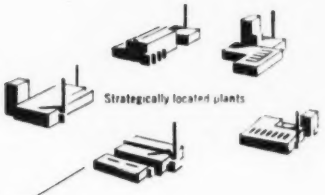
HYSTER COMPANY

THREE FACTORIES

2922 N. E. CLACKAMAS STREET . . . PORTLAND 9, OREGON
1822 NORTH ADAMS STREET . . . . . PEORIA 1, ILLINOIS
1022 MEYERS STREET . . . . . DANVILLE, ILLINOIS

Convenient sales offices—ample local stocks the nation over

Specialized technical service

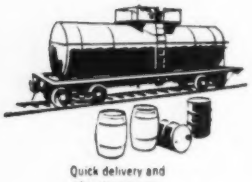


Strategically located plants

Whichever way you look at it...

TRADE Reg. U.S. MARK Pat. Off.

Long experience ... accumulated knowledge



Quick delivery and shipping service

It pays to specify SOLVAY

With today's costs of manufacturing so high, it's the wise chemical buyer who considers his purchases from every angle. Price and specification alone are no longer basis enough for a buying decision.

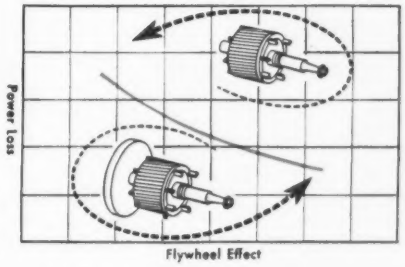
There is a good deal more a buyer can expect—speed of delivery, technical service, big-plant capacity to assure continued supply, knowledge of the industry and experience with its problems. On all these counts, more and more manufacturers agree, "it pays to specify Solvay."

SOLVAY SALES DIVISION
ALLIED CHEMICAL & DYE CORPORATION
40 Rector Street, New York 6, N. Y.

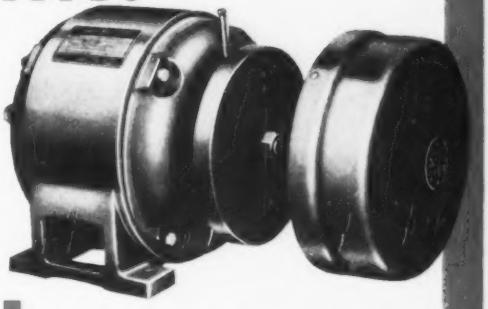
Soda Ash • Caustic Soda • Caustic Potash • Chlorine • Potassium Carbonate • Calcium Chloride • Nytron • Sodium Bicarbonate • Specialty Cleansers
Ammonium Bicarbonate • Sodium Nitrite • Para-dichlorobenzene • Ortho-dichlorobenzene • Monochlorobenzene • Methanol • Ammonium Chloride • Formaldehyde

the new G-E flywheel loom motor

cuts loom operating costs 4 WAYS!



Flywheel Effect



1. IT CUTS YOUR POWER COSTS!

Where a study indicates the need for a motor with additional flywheel effect, a *standard* General Electric loom motor with a flywheel integrally mounted will give you worthwhile power savings. As the chart shows, it reduces the peaks and valleys of the motor input, thereby cutting power losses.

2. IT CUTS THE SIZE OF MOTOR YOU NEED!

Often, a flywheel permits the use of a motor one size smaller than would be possible with a conventional loom motor. On the other hand, increased loom speed can be obtained without using a motor of greater horsepower.

3. IT PERMITS INCREASED PRODUCTION

With a flywheel on its shaft, a 1200 rpm motor may deliver performance equivalent to that of an 1800 rpm motor. This allows changing loom speeds in smaller increments and the use of stronger pinions—both well-recognized benefits.

4. . . . and IT ACTUALLY IMPROVES LOOM PERFORMANCE.

In mills where General Electric flywheel loom motors have been installed, reports indicate that a flywheel loom motor improves loom performance—loom fixers like the better "feel."

Ask your G-E sales engineer and your loom manufacturer about this new loom motor or, write for Bulletin GEA-5011B. Apparatus Dept., General Electric Co., Schenectady 5, N. Y.

TOTALLY ENCLOSED LOOM MOTORS

GENERAL ELECTRIC

Compare "Little Uster" Performance with that of any other Warp Tying Machine in the world

USTER

You Get Unmatched Speed

The "Little Uster" ties up to 120,000 ends in 8 hours. No other machine, tying at the loom, approaches that speed. And the "Little Uster" ties even the widest warp in one continuous "bite."

You Get Double Service

Several frames can be used with one "Little Uster" tying head. The warp is prepared on one frame while the head is tying on another — an exclusive "Little Uster" feature. It takes only a few seconds to install the head on the prepared frame; thus the head is in service almost continuously.

You Get Versatility

The "Little Uster" ties portable or stationary with equal ease. Ties leased sheet to unleased sheet — ties with or without lease. Adjustable within two minutes for tying any material. What other machine is so versatile?

You Get Precision Mechanism

The tying head of the "Little Uster" is a jewel of an instrument — skillfully designed and built with incomparable precision.

You Get Compactness and Convenience

The "Little Uster" can be set almost directly over large beams and will operate in quarters frequently too cramped for another machine. Tied ends are completely visible and accessible — another exclusive feature.

You Get the World's Best

The "Little Uster" is the finest, the fastest, and the most efficient warp tying machine in the world. Write for Booklet #72 and get the details on this money saving machine

USTER CORPORATION, CHARLOTTE, N. C.

80 Boylston Street, Boston 16, Mass.

"SHELL WOOL OILS lick 5 processing problems right off the reel!"

because:

1. They scour out easily and completely with a minimum use of soap.
2. They have quick, even spreading and penetration characteristics.
3. They reduce static to a minimum.
4. They will not turn rancid in use or in storage.
5. They are self-emulsifying in any concentration.

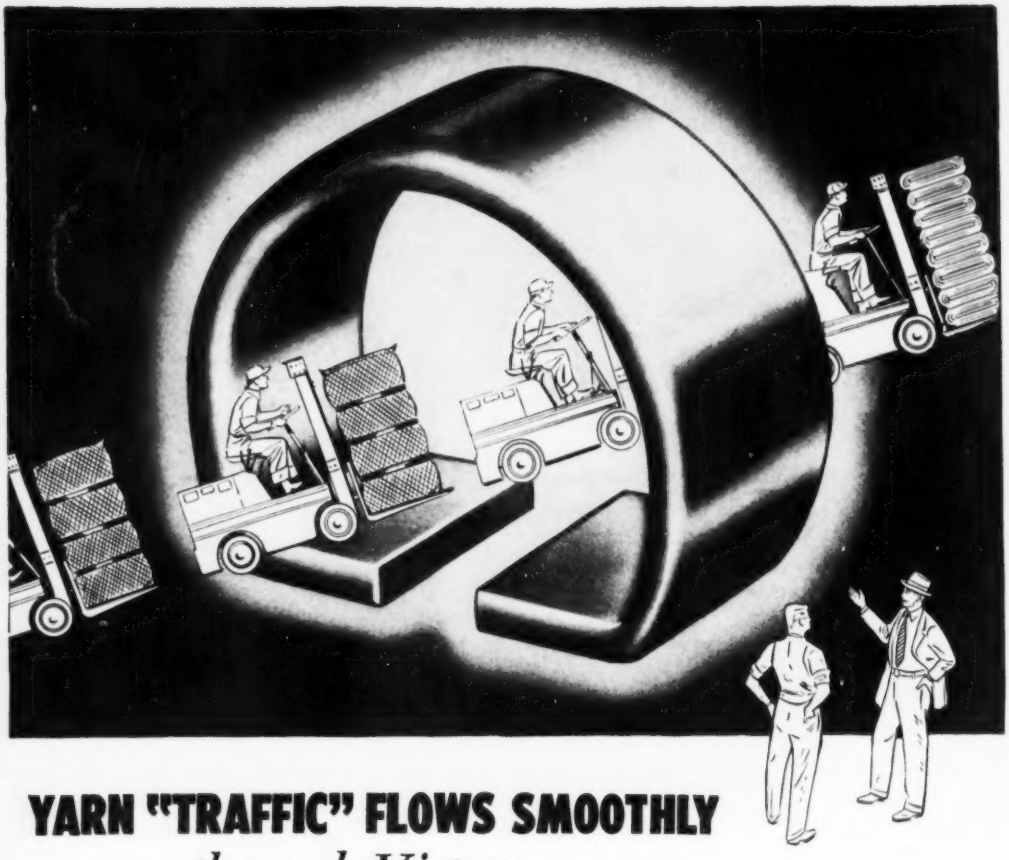
"... and SHELL WOOL OILS give you these extra qualities"

1. They *will not rust* or corrode card clothing or machine parts.
2. They *will not glaze* or attack leather card aprons or tapes.
3. They *will not load* the cards.
4. They *will not separate* in use or in storage.

The Shell Lubrication Engineer will be glad to tell you all about the advantages of using Shell Textile Processing Oils. Samples for *your* own tests are available. Shell Oil Company, 50 West 50th Street, New York 20, N. Y., or 100 Bush Street, San Francisco 6, California.

SHELL

SHELL TEXTILE OILS



YARN "TRAFFIC" FLOWS SMOOTHLY

. . . through Victors

SINCE MOST MILLS' entire output passes through travelers — whether yarn traffic is speeded or stalled depends on your selection.

Which are your travelers — bottlenecks or broad highways? Assuming equipment is in proper condition, if the traveler is **wrong**, the flow of work through the mill will be slowed up at the spinning or twisting, production will lag, quality will suffer, and profits will sag. If the traveler is **right**, you can meet output schedules, cut down waste, and upgrade quality.

With the many new developments in synthetics and blends, it is becoming more and more difficult to be sure the traveler you use is **right** for the job. To save valuable time in setting up the smooth-running spinning and twisting you want, you need up-to-the-minute information.

There's a man near you who knows what you want to know about choosing travelers. He's the Victor Service Engineer and his job is to keep abreast of every new development. He will help you select the **right** traveler for any fiber, any blend you may be running. Write, wire, or phone the nearest Victor office for prompt service.

Keep a Step ahead with

VICTOR Ring Travelers

VICTOR RING TRAVELER COMPANY

PROVIDENCE, R. I. . . . . 20 Mathewson St. . . . . Tel. Dexter 1-0737

GASTONIA, N. C. . . . . 358-364 West Main Ave. . . . . Tel. 5-0891

For more information, write direct or use Reader Service post card.

RELIANCE V★S DRIVE

NOW... NEW V★S DRIVES

(¾-2 hp.)

for Thousands of Additional Applications

The new V★S Drives are now available in ¾, 1, 1½ and 2 hp. sizes. Compact control unit is approximately 11" square, 30" high—weighs under 75 pounds.

The Original Packaged All-Electric, Adjustable-Speed Drive for A-c. Circuits

at a price everybody can afford!

Adjustable Speeds from A-c. Power for GREATER PRODUCTION at LOWER COST!

Here is a simple, space-saving, low-cost *All-electric* Adjustable-speed Drive. This V★S Drive utilizes the same fundamental principles employed in the design of *all* Reliance V★S Drives for over 11 years.

UNLIMITED SPEED CHANGES. Provides an unlimited selection of speeds over a wide range—*electrically.*

JOGGING AND CREEPING SPEEDS. Selector switch provides for slow, jogging speed. Creeping speeds available through speed adjustor.

REMOTE CONTROL. Push a button and twist a knob—at the machine or at any remote location—for *instant* action.

QUICK, SMOOTH STARTING AND STOPPING. Offers fully controlled starting and stopping. Dynamic braking is available.

SPACE-SAVING. Compact, adjustable-speed drive motor connected to the driven machine saves valuable production space.

SIMPLIFIED DESIGN. Simplest design ever achieved in a packaged, all-electric adjustable-speed drive operating from A-c. circuits.

ADAPTABLE. The new V★S Drive can be easily applied to existing machines or built into machines as original equipment.

Machine builder or machine user, it will pay you to have all the facts on this important extension of the V★S line. Write today for Bulletin D-2101.

Sales Representatives in Principal Cities

RELIANCE ELECTRIC AND ENGINEERING CO.

"Motor-Drive is More Than Power" • **1086 Ivanhoe Road, Cleveland 10, Ohio**

Do you measure salt by RULE OF THUMB?

For Accurate Salt Measurement
"PASS the SALT" by LIXATOR*

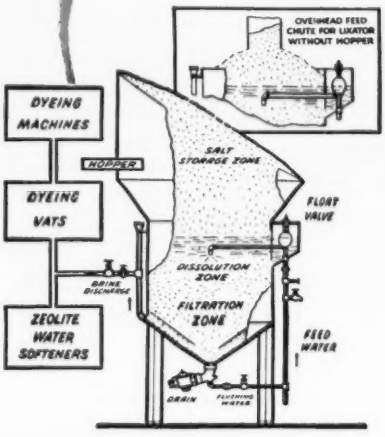
RULE of thumb measurement of salt by volume, in bucket or shovel, or by weight is inaccurate and wasteful.

For example, in measurement by dry salt volume, one cubic foot of dry salt will weigh *anywhere* from 66 to 84.5 pounds. And measurement by dry salt weight is "guesswork," too, for salt may contain from .05% to 5.0% moisture depending upon humidity, length of time in storage, varying bulk and area of the stock pile.

BUT . . . with the Lixate Process salt measurement is *exact*. Each gallon of Lixate Brine *always* contains *exactly* 2.65 pounds of Sterling Rock Salt. For the Lixator *automatically* makes 100% saturated, crystal-clear, self-filtered brine, that meets the most exacting chemical and bacterial standards. And this brine can be *easily* and *accurately* diluted volumetrically to any desired strength.

Too much salt in the dye bath drives excessive quantities of dye into the fabric causing spotting, streaking and white edges. Too little salt will not properly exhaust the dye. The exact amount of salt is best secured by use of Lixate Brine which always contains exactly 2.65 lbs. of salt per gallon.

Consult our Technical Service Department on your use of salt and brine. The experienced men on this staff will advise you on the proper location for Lixator and salt storage, pumping arrangements, types of pumps, meters, and valves. They will fit the *money-saving* Lixator into your plant operations. Write today!



HOW THE LIXATOR WORKS—*In the dissolution zone*—Flowing through a bed of Sterling Rock Salt which is continuously replenished by gravity feed, water dissolves salt to form 100% saturated brine. *In the filtration zone*—Through use of the self-filtration principle *originated by International*, the saturated brine is thoroughly filtered through a bed of undissolved rock salt. The rock salt itself filters the brine. Nothing else is needed.

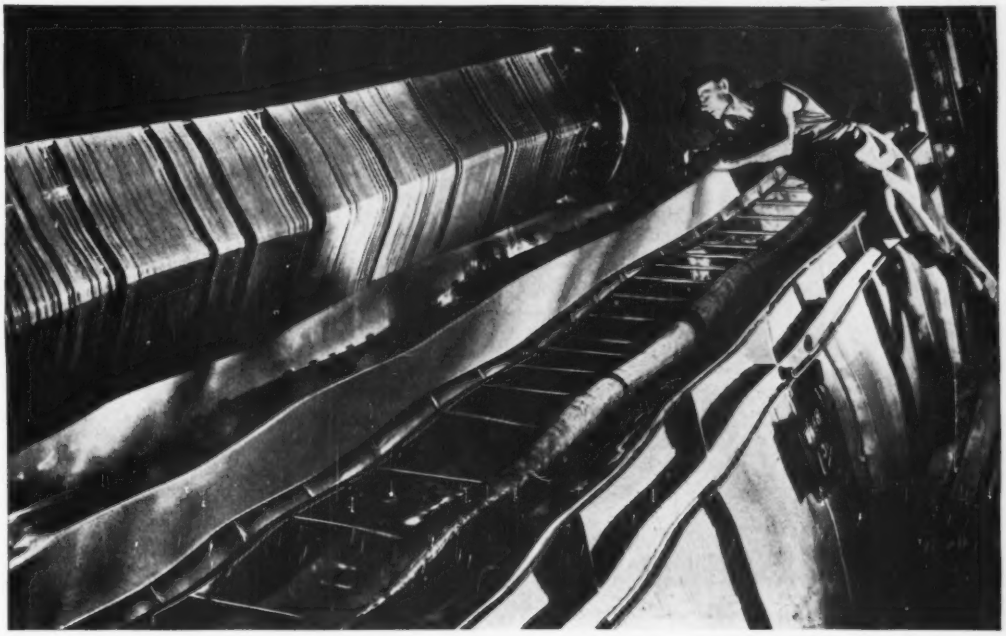
NOW AVAILABLE
The New Stainless Steel
STERLING* MODEL LIXATOR*
For "Lifetime" Use
For Greater Economy
For Added Cleanliness

*Trade Mark

The **LIXATE** *Process*
REG. U. S. PAT. OFF.
for making brine
INTERNATIONAL SALT COMPANY, INC.
Scranton, Pa.

Enduro-THRIFTY METAL OF 10,000 USES

DYEING OF WOOLENS AND WORSTEDS calls for equipment of high strength, high corrosion-resistance, minimum weight, and easy cleaning. Republic ENDURO Stainless Steel fills that bill of particulars perfectly for this 20-foot stainless steel reel, as well as for racks and dye sticks, dye beams, kettles, cans, saturators, bleaching equipment, fulling machines, rolls, sizing equipment and yarn boxes.



FOR REEL STRENGTH *and* LIGHTNESS..STAINLESS STEEL!

Republic ENDURO Stainless Steel has a high strength-to-weight ratio that makes it ideal for dye reel construction . . . where maximum strength is required without sacrifice of lightness and free movement. With ENDURO, thin sections have the required strength without the weight of bulkier, less flexible materials.

ENDURO is also an enduring metal, low in maintenance and long in trouble-free life. It is highly corrosion-resistant, easily and quickly cleansed of every trace of dye or other foreign matter adhering to the surface.

ENDURO also is the *thrifty* metal . . . in the textile field and every other field. It may cost a trifle more initially, but this difference is quickly offset by more continuous production, less spoilage, less maintenance. ENDURO pays its way and turns in a bonus, too.

There are many analyses of ENDURO, designed to meet specific applications. Check with your equipment manufacturer or write to:

REPUBLIC STEEL CORPORATION
Alloy Steel Division • *Massillon, Ohio*
GENERAL OFFICES • CLEVELAND 1, OHIO
Export Department: Chrysler Building, New York 17, N. Y.

Enduro STAINLESS STEEL
REG. U. S. PAT. OFF.

REPUBLIC STEEL

✓ *Check ALL 10 Advantages!* • RUST AND CORROSION-RESISTANCE • HEAT-RESISTANCE • HIGH STRENGTH • NO METALLIC CONTAMINATION • SANITARY SURFACES • EASY TO CLEAN • EYE APPEAL • EASY TO FABRICATE • LONG LIFE • LOW END COST.

In plants handling corrosive liquids, or fluids that must be kept free from contamination or discoloration, Stainless Steel Valves must be not only the right *type*, but fabricated of the *proper* alloy for the service.

To keep production at peak, and down-time for repairs and replacements to a minimum, alert management chooses Jenkins Stainless Steel Valves. Built to the same quality standard which has made "Jenkins" the preferred industrial valve, Jenkins Stainless Steel Valves are available in a range of sizes to meet almost any service requirement.

Equally important, however, is Jenkins Engineering Service. Providing information you need to select the alloy or type of valve which will render the best service (based on analysis of specific information about the valve installation), Jenkins engineers can be of valuable assistance.

Send the coupon today for the new folder describing the complete line of Jenkins Stainless Steel Valves. It includes specifications and helpful data on selection.

Jenkins Bros., 80 White St., New York 13; Bridgeport, Conn.; Atlanta; Boston; Philadelphia; Chicago; San Francisco. Jenkins Bros., Ltd., Montreal.

Sold through leading Industrial Distributors

JENKINS BROS.
80 White Street, New York 13, N. Y.
Please send Stainless Steel Valve Folder — Form 194.

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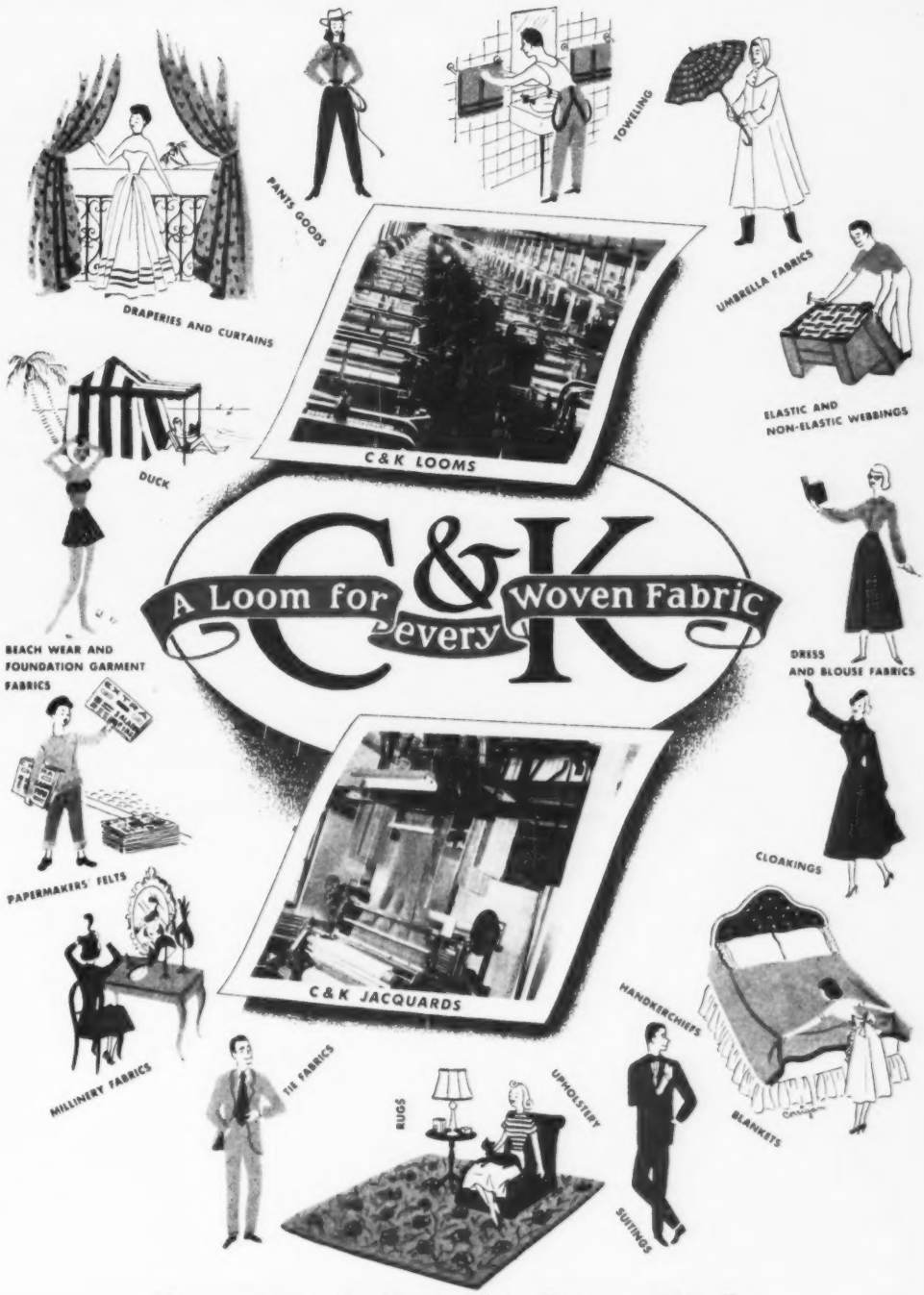
COMPANY_____

ADDRESS_____

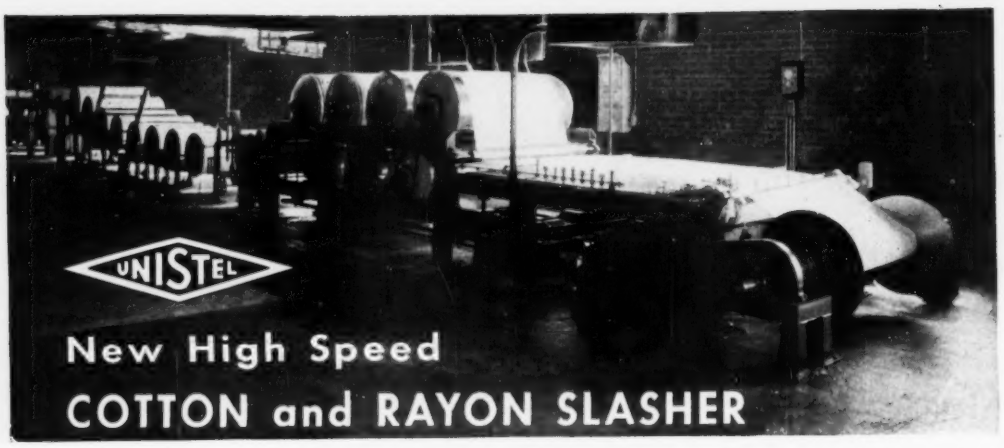
JENKINS VALVES

LOOK FOR THE DIAMOND MARK

SINCE 1864

Crompton & Knowles Loom Works

WORCESTER 1, MASSACHUSETTS, U. S. A.

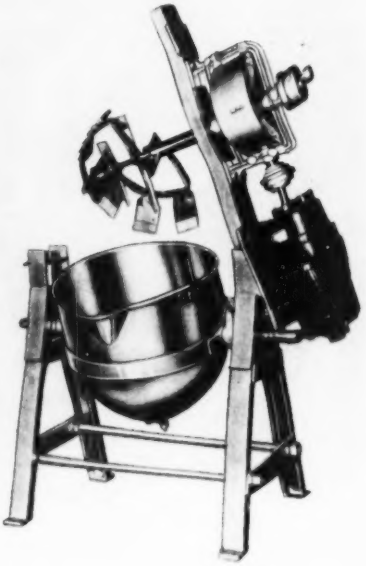
PHILADELPHIA, PA. • CHARLOTTE, N. C. • ALLENTOWN, PA. • CROMPTON & KNOWLES JACQUARD & SUPPLY CO., PAWTUCKET, R. I.



Featuring Multimotor Drive giving constant tension eliminating clutch and press roll.
Unistel Stainless Steel Slasher can & rolls.
Unistel Stainless Steel Size Box with pneumatic control pressure on squeeze rolls.
Chain & Sprocket transmission on cans, eliminating gears.

Stainless Steel Kettles

A complete line of stainless steel steam jacketed kettles, tilted or stationary for color dyes and chemicals from 25 gallons to 300 gallons. DOUBLE MOTION SCRAPING BLADE AGITATORS with hinged scraper blades continuously transferring heated film from the hot wall of the kettle to the center where the cross arms travelling in the opposite direction mix the heated film with the cooler center for a uniform temperature and color. No better method—no better line of kettles on the market today. Your inquiries invited.



CAN DRYER ASSEMBLIES • BACK DRYER ASSEMBLIES • DRY CANS • SLASHER CANS • BACK DRYER CYLINDERS • SLASHER CYLINDERS • ROLLS • SIZE KETTLES • SOAPER TANKS • SPECIAL TANKS

UNISTEL TEXTILE MACHINE CORPORATION P. O. BOX 470 PORT CHESTER, N. Y.

DESIGNED FOR THE FEMININE MARKET

Who buys your packaged textiles? Women, overwhelmingly. And women are eye-buyers, attracted by style, color, design. Is your textile package created with this ultimate consumer in mind?

Let our Textile Packaging Laboratory show you what scientific package design can do for sales. We research consumer reactions at the point of sale—study your packaging and distributing methods, and your costs—and recommend the package most efficient for your needs and most attractive to the woman buyer. Container Corporation of America has a long, successful record of packages designed to sell on sight.

CONTAINER CORPORATION OF AMERICA

TEXTILE PACKAGING LABORATORY, PHILADELPHIA

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Executive and General Offices

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FACTORS

For Manufacturers and Merchants

Inquiries as to our services solicited

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ESTABLISHED 1840

you win three ways—when you knit with

STANDARD Durene*

SPINNERS MERCERIZERS S-C-T DYERS BLEACHERS

Made of Durene® multi-ply mercerized combed cotton yarn
4 WAYS BETTER than ordinary cotton yarns
EXTRA COMFORT ---more absorbent
EXTRA STRENGTH ---longer wear
EXTRA QUALITY ---lasting lustre
EXTRA SERVICE ---easy to wash

—increased production, sales and profits

Like hundreds of Durene licensees, you can capitalize on the national Durene campaign in a big way with Standard Durene. This superior mercerized combed cotton yarn is smoother, faster; has a lovelier luster; yields more attractive, more comfortable knitwear; pleases more people. It actually takes less time to produce and sell garments made of Standard Durene . . . and all because of Standard's policy of *complete control of all processing from selected raw cotton to finished yarn.* Start today. Specify Standard Durene and step up your production, sales and profits: 10's to 120's ply, natural, bleached and dyed.

*Reg. U.S. Pat. Off.

Standard Durene • Sak Gassed Mercerized Thread Yarns • Selo • Preemo • Threads

STANDARD-COOSA-THATCHER CO.

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Philadelphia 9, Pa. 123 S. Broad St., New York 16, N.Y. 185 Madison Ave. Chicago 54, Ill. Merchandise Mart Greensboro, N. C. Guilford Building Reading, Pa. 509 Walnut St. Utica, N.Y. P. O. Box 103

Representatives in Central and South American Countries

LEAD LINED EQUIPMENT

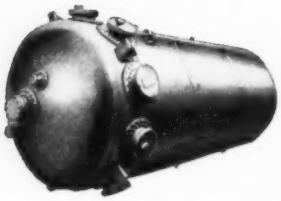
. . . curbs Corrosive Acids

The "vessels" used in the process industries may range from a five-gallon receptacle to a cavernous tank. Details of construction may differ. But, when it comes to handling corrosive chemicals, much of this equipment has at least one thing in common . . . a lining of lead. Because *Lead blunts the teeth of hungry acids.*

Leaders in the chemical processing field have something in common, too. They rely on the leader in lead products . . . National Lead . . . for their lead-lined and lead-covered equipment. They know that National offers . . . *and delivers* . . . not merely a mass of metal bearing outward resemblance to drawing and blueprint, but a piece of acid-handling apparatus that has the built-in ability to do the job it was bought to do. Into each unit goes the know-how, from drafting board to shop assembly, that makes the most of lead's resistance to chemical attack plus steel's resistance to physical abuse.

In National Lead's "Homogeneous" lead-lined tanks, drums, agitators, autoclaves and other items of this nature, the lead lining is bonded directly to the steel casing. An inseparable bond is created, a union of lead and steel that obviously will withstand higher temperatures than one in which solder is used.

Every piece of National Lead's "Homogeneous" lead-lined and lead-covered equipment is individually fabricated to your specifications. When you want information on acid-handling apparatus, please consider our specialists in this field *at your service.*



Look to the Leader for Lead

. . . in everything from lead pipe . . . valves . . . sheet . . . and lead-lined or lead-covered equipment . . . to complete acid recovery plants

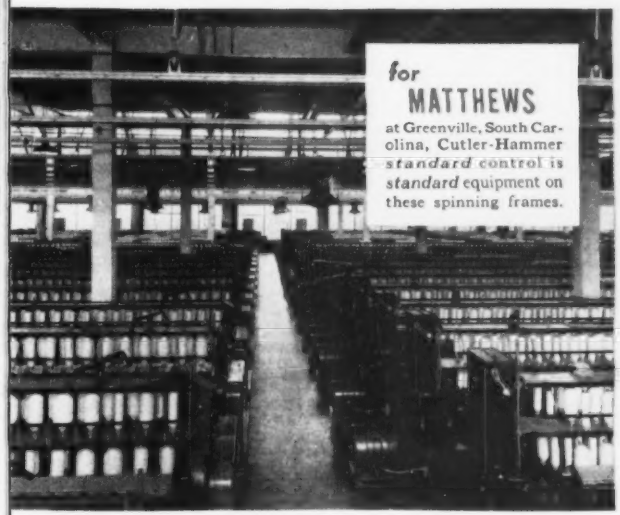
NATIONAL

Lead Company

New York 6; Baltimore 3; Buffalo 3; Chicago 8; Cincinnati 3; Cleveland 13; Pittsburgh 12; St. Louis 1; Boston 6 (National Lead Company of Mass.); Los Angeles 23 (Morris P. Kirk & Son, Inc.); Philadelphia 25 (John T. Lewis & Bros. Co.); Atlanta (Georgia Lead Works, Div. of Cincinnati Branch); Toronto, Canada (Canada Metal Co. Ltd.).

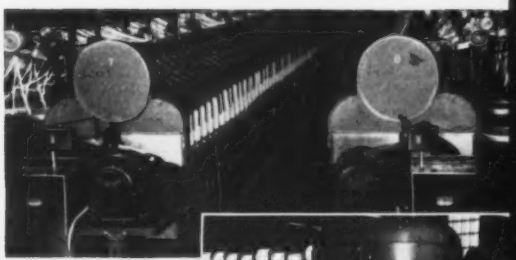
CUTLER-HAMMER

MOTOR CONTROL FOR THE TEXTILE INDUSTRY



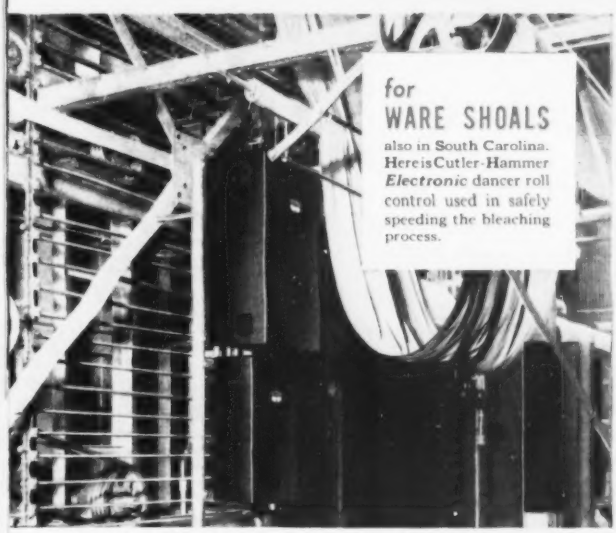
for MATTHEWS

at Greenville, South Carolina, Cutler-Hammer *standard* control is *standard* equipment on these spinning frames.



for WAUMBEC

at Manchester, N. H. Cutler-Hammer Push-button Manual Starters on uptwisters and Primary Resistor Type Magnetic Starters on roving frames. Cutler-Hammer control also used on looms and spinning frames in this great mill.



for WARE SHOALS

also in South Carolina. Here is Cutler-Hammer *Electronic* dancer roll control used in safely speeding the bleaching process.

CUTLER-HAMMER LOOM SWITCH

for fewer shutdowns, greater production, easier maintenance

Pushbutton operation—an achievement for this type of starter. Stop button can be padlocked.

Stronger, smaller, drawn steel case. Unique welded-steel mounting pedestal available to create a *complete* assembly with unparalleled resistance to mechanical shock.

Lint-proof enclosure—close fitting cover (even around pushbutton well) prevents entrance of lint and dust.

Service proven, positive make, quick break operating mechanism built on *steel* framework.

"Out in the open" contacts for quicker inspection and easy renewal *on the job*. Most dependable overload protection—famous Cutler-Hammer eutectic element type—prevents unnecessary shutdowns without sacrifice of *positive* motor protection.

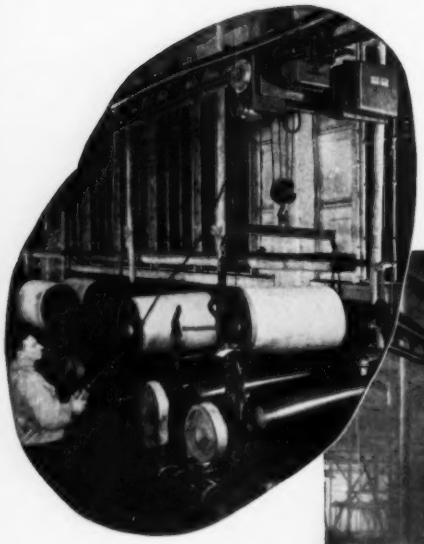
Vibration resistant. Mechanism "floats" in truly effective *live rubber* mounting bushings.

Look Behind the Label If You Want the Most From Your Plant

Every experienced textile man knows that his real investment lies *not* in the row upon row of machines in his plant . . . but in the uninterrupted operation of this equipment at peak efficiency. And if he knows *that*, he is also keenly aware of the part motor control plays in "keeping things humming." For motor control is the connecting link that permits men, motors and machines to function together as one highly efficient unit.

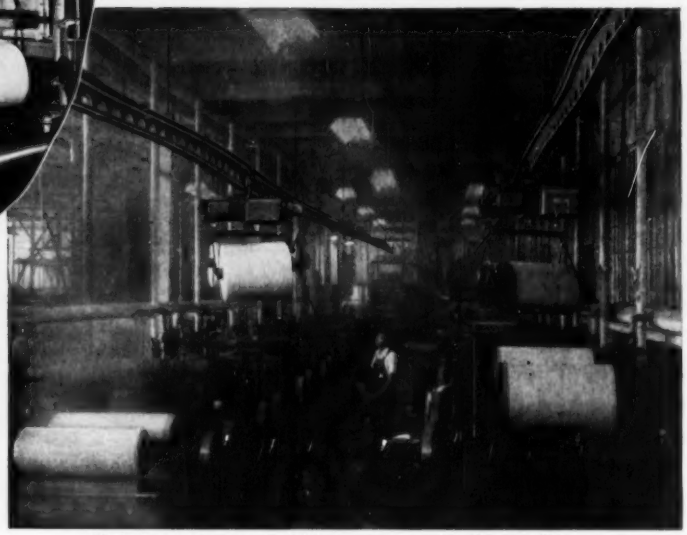
The selection of this important link *cannot* be left to chance, nor to mere enumeration of dimensions and ratings. And so, textile men with keen vision look beyond the control itself, to truly significant factors such as Cutler-Hammer's *record specialization* in the field of motor control. Not only has this 58 year specialization contributed much to the dependability of the electric motor drives of today, but the "know-how" gained in the solution of *tough* problems for *all* industry contributes a great deal to the efficiency and dependability of Cutler-Hammer control for the Textile Industry. That is why a larger and larger proportion of textile mill men are looking *behind* the label, focusing upon the all-important question of who built the control, insisting upon Cutler-Hammer, and refusing all substitutes. CUTLER-HAMMER, Inc., 1457 St. Paul Ave., Milwaukee 1, Wisconsin.

CUTLER-HAMMER
MOTOR CONTROL
C-H



Handles Rolls into DYEING JIGS IN ¼ NORMAL TIME

Makes Hard Dangerous Job Easy, Fast, Safe and . . . Pays for Itself in Less Than One Year



23 dyeing jigs in operation 24 hours a day served by Cleveland Tramrail system. The motor-driven carrier with electric hoist picks up the rolls in storage, delivers them to the jigs and sets them in place.

A Cleveland Tramrail installation in the Jig Dyeing Department of a large mill has reduced a hard job fraught with danger to a simple, easy, safe task, and has cut the man-hours for conveying and lifting rolls in and out of the jigs to one-quarter of that formerly required. The installation has fully paid for itself in less than one year.

Rolls of cloth are taken directly from the storage section to the Dyeing Department without rehandling. A transfer bridge gives complete coverage of the roll storage and interlocks with the two tracks serving the dyeing jigs.

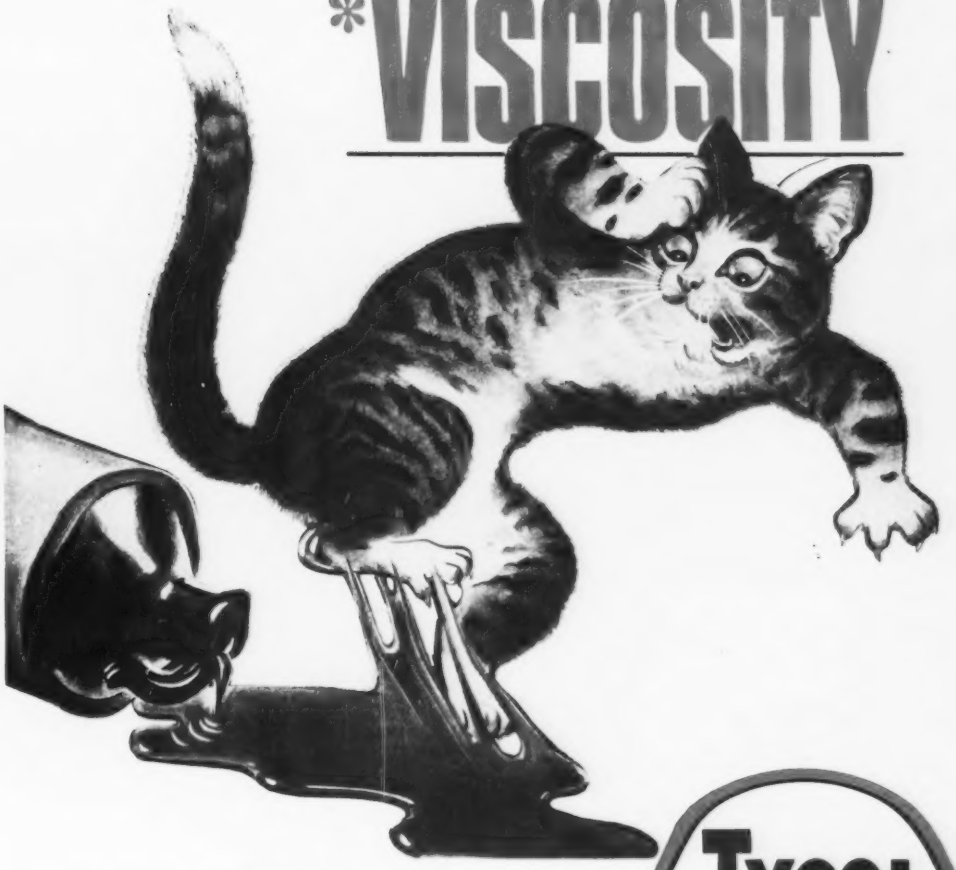
Thus one man can handle rolls from storage to jigs without assistance and the former danger of hernias, mashed fingers, toes, and more severe injuries is eliminated.

GET THIS BOOK!
BOOKLET No. 2008. Packed with valuable information. Profusely illustrated. Write for free copy.

CLEVELAND TRAMRAIL DIVISION
THE CLEVELAND CRANE & ENGINEERING CO.
8463 East 287th Street Wickliffe, Ohio

CLEVELAND TRAMRAIL
OVERHEAD MATERIALS HANDLING EQUIPMENT

*VISCOSITY



All equipment will last longer — give better service — if you use the proper lubricant. That's why you'll find it profitable to use Tycol high quality oils and greases.

There's a reason! No matter what your lubrication need — for roll neck bearings or mine cars. Diesels or high speed textile spindles, turbines, paper calenders or steam engines . . . where *VISCOSITY, penetration, extreme pressure is a factor — Tycol has a lubricant suited to your specific requirements.

Refined from selected crudes, Tycol lubricants are exceptionally resistant to breakdown which means greater economy . . . longer life for every type of equipment.

Let us show you the extra value in every measure of Tycol lubricants. Write your nearest Tide Water Associated office today.

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TIDE WATER ASSOCIATED OIL COMPANY

17 BATTERY PLACE - NEW YORK 4, N. Y.

*LEARN WHAT THIS PRODUCT CHARACTERISTIC MEANS TO YOU — READ "LUBRICANIA" This informative handbook, "Tide Water Associated Lubricania," gives clear, concise descriptions of the basic tests used to determine important properties of oils and greases. For your free copy, write to Tide Water Associated Oil Company, 17 Battery Place, New York 4, N. Y.

REFINERS AND MARKETERS OF VEEDOL — THE WORLD'S MOST FAMOUS MOTOR OIL

why CRANE
DIAPHRAGM VALVE DESIGN
is Superior

WORKING PRESSURES:
150 Pounds
water, oil, air, or gas;
½ through 4-in. sizes
125 Pounds
water, oil, air, or gas;
6-in. size only
180 Deg. F.
max. temp.; all sizes

LONGER DIAPHRAGM SERVICE LIFE—Diaphragm is not subject to cutting, crushing, and rapid wear since it is used *only* to seal the bonnet; not for seating purposes.

POSITIVE SHUT-OFF in case of diaphragm failure. *This is an exclusive Crane safety feature.*

ACCURATE SEATING—Circular flat face disc with resilient neoprene seating surface gives tight closure—independently of diaphragm—on all fluids.

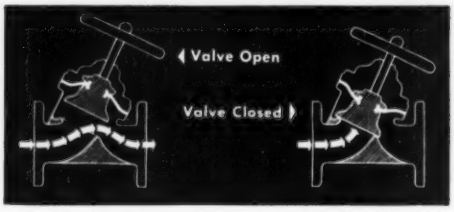
GREATER FLOW CAPACITY—Y-pattern body design gives closer approximation to straight-line flow, reduces resistance and pressure drop.

EASIER OPERATION—Less torque— fewer turns—needed to operate valves—especially in larger sizes.

PLAIN IRON OR NEOPRENE-LINED—Unlined valves will handle all common services. Neoprene-lined valves are recommended for fluids corrosive to iron but non-active chemically upon neoprene.

HOW IT WORKS

The Crane diaphragm performs one job *only*—sealing the bonnet against line fluids. The seating member is a separate circular flat face disc, firmly attached to the stem and joined to the diaphragm with a special leakproof connection. This independent seating arrangement permits positive shut-off of flow, even in case of diaphragm failure.



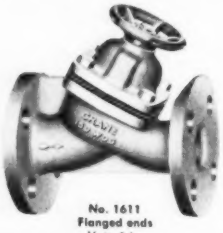
SEND FOR THIS NEW CIRCULAR

Contains complete information about these outstanding valves—including all essential specification data, service recommendations, and list prices. Ask your Crane Representative for your copy, or WRITE FOR CIRCULAR AD-1761. No obligation.

CRANE CO., 836 S. Michigan Ave., Chicago 5, Ill.
Branches and Wholesalers Serving All Industrial Areas

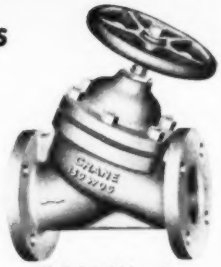
NOW AVAILABLE IN SIZES UP TO 6-INCHES

No. 1610
Screwed ends
½ to 2-in.



No. 1611
Flanged ends
½ to 6-in.

No. 1615
Neoprene-lined, Flanged ends
½ to 6-in.



2½, 3, 4, and 6-in. valves,
Plain iron or Neoprene-lined,
have rising, turning stem

EVERYTHING FROM . . .

VALVES
FITTINGS
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CRANE

PLUMBING
AND
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FOR EVERY PIPING SYSTEM

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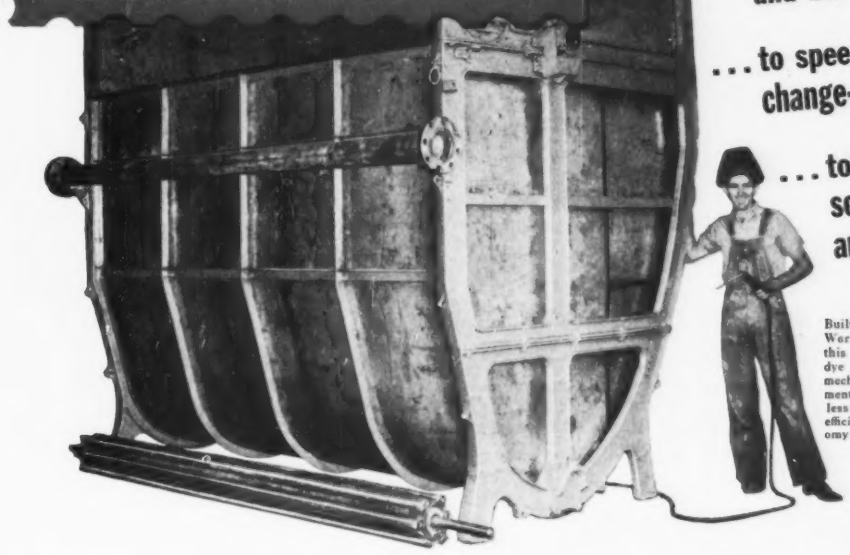
MADE OF U·S·S Stainless Steel



. . . to end rust and corrosion

. . . to reduce time and cost of cleaning

. . . to stop color-lag and bleeding

. . . to speed up change-overs

. . . to prevent soap stains and canker

Built by the Sims Metal Works of West Point, Ga., this combination wash and dye vat is typical of the mechanized textile equipment in which U·S·S Stainless is used to insure greater efficiency and greater economy of operation.

STAINLESS STEEL construction like this has become almost taken-for-granted in the new, advanced design equipment now being produced for textile mill service.

That's because Stainless Steel equipment has consistently paid off in better results, bigger production and lower maintenance costs. Stainless Steel does so much more, does it so much better, and lasts so much longer that it has proved by far the cheapest material that can be used.

We believe it significant that so much of this time-saving, cost-cutting equipment is being built with U·S·S Stainless Steel. The ability of this *perfected* Stainless to meet requirements that are new and often unusually severe, and to insure top performance in such applications, is due to two things: First, U·S·S Stainless is available in a variety of analyses that will meet almost any service condition. And, second, its uniformity in composition, in finish, and in fabricating qualities allows wide latitude in design and permits the use of the most advanced manufacturing techniques.

Our engineers are specialists in Stainless Steel. You will find their help invaluable in determining exactly what type of U·S·S Stainless will do the best, most efficient job. Write for their assistance, outlining your problem, to United States Steel Corporation Subsidiaries 2106 Carnegie Building, Pittsburgh 30, Pa.

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U·S·S STAINLESS STEEL

SHEETS · STRIP · PLATES · BARS · BILLETS · PIPE · TUBES · WIRE · SPECIAL SECTIONS

9-1693

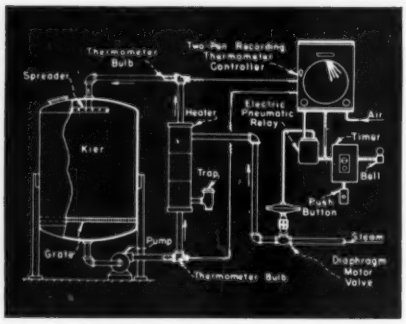
UNITED STATES STEEL

happy notes

MORE WORK

LESS COST

when your Kier has a Brown Control System



▲ *Brown Control System for Externally Heated Kier . . . available in slightly different form for Internally Heated Kier.*

Let a Brown Control System take over the time and temperature cycles of your Kier Boiling . . . and watch your production go up and your operating costs come down.

You'll get uniform treatment of each batch and the instrument chart will give you a complete record for future reference and guidance. Brown automatic control raises Kier temperature at the highest practicable rate and provides the greatest production in a minimum of time. Kier operates automatically . . . from push-button start to alarm signal ending . . . freeing personnel for other duties.

It all adds up to more work done, at less cost!

Call in your local Brown engineer for free consultation and advice . . . or write for a copy of Data Sheet #8.1-8 for detailed information.

MINNEAPOLIS-HONEYWELL REGULATOR CO.
BROWN INSTRUMENTS DIVISION
4509 Wayne Avenue, Philadelphia 44, Pa.

Offices in 73 principal cities of the United States, Canada and throughout the world

Minneapolis Honeywell — *Advanced Instrumentation* FOR THE TEXTILE INDUSTRY — BROWN INSTRUMENTS

Small-scale view of a big advantage

Uniformity in every dimension—length, width and thickness—is essential in knitting needles if they are to produce uniform knitting. For only when they are all exactly the same—on a minute scale—can you be sure of pulling stitches that are neither tight nor loose.

Exacting control of the over-all length of Torrington Needles is assured by use of specially designed equipment and special methods of testing and checking. The result is a big advantage to you in controlling the quality of your knitting. Insist on Torringtons—the needles in the Red and Green box.

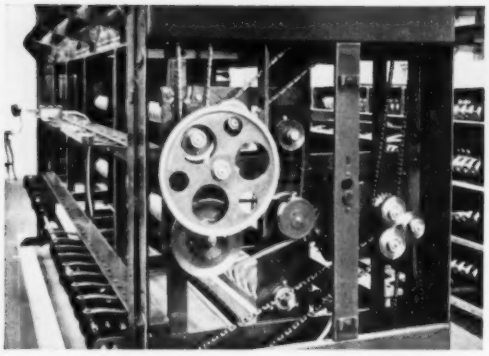
THE TORRINGTON COMPANY, Torrington, Conn., U.S.A.
Established 1866

Branches: New York • Philadelphia • Chicago • Greensboro, N. C. Boston • St. Louis • Toronto, Canada • *Pacific Coast Representative:* E. G. Paules, 1762 West Vernon Ave., Los Angeles 37, California. Broadgate House, 7-10 Eldon Street, London E. C. 2, England.

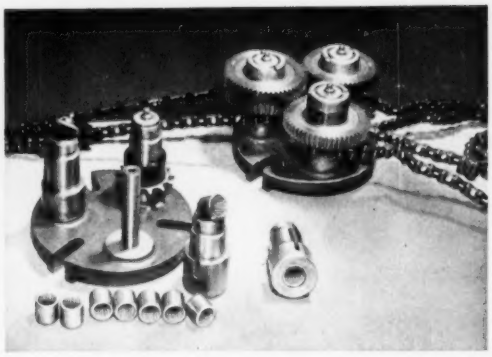
TORRINGTON

SPRING BEARD NEEDLES • SINKERS • DIVIDERS • SPLIT DIVIDERS

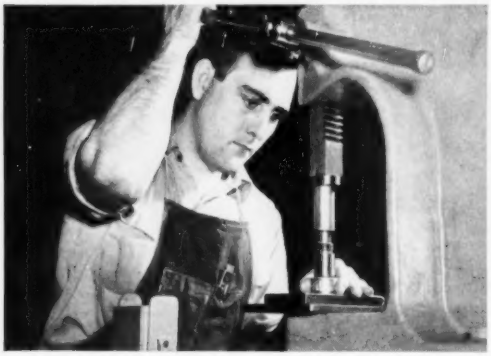
Torrington Needle Bearings simplify design and lubrication in Arnold Rubber Covering Machines



The H. H. Arnold Co., Inc., stresses simple design, rugged construction and easy maintenance on its machines, for covering rubber with cotton, rayon, or nylon yarn. The use of 28 Needle Bearings in the drive gears has helped satisfy these requirements.



Simplicity of the components of a gear assembly is apparent. Two Needle Bearings in each gear provide unusual stability. They reduce wear, keep gears in line. The turned-in lips of the outer shell retain oil, and reduce the frequency of lubrication.



Easy installation of Needle Bearings by a simple arbor press operation is another important advantage. The unit design facilitates handling. And because Needle Bearings take a firm press fit in the machined bore, they require no spacers or retainers.

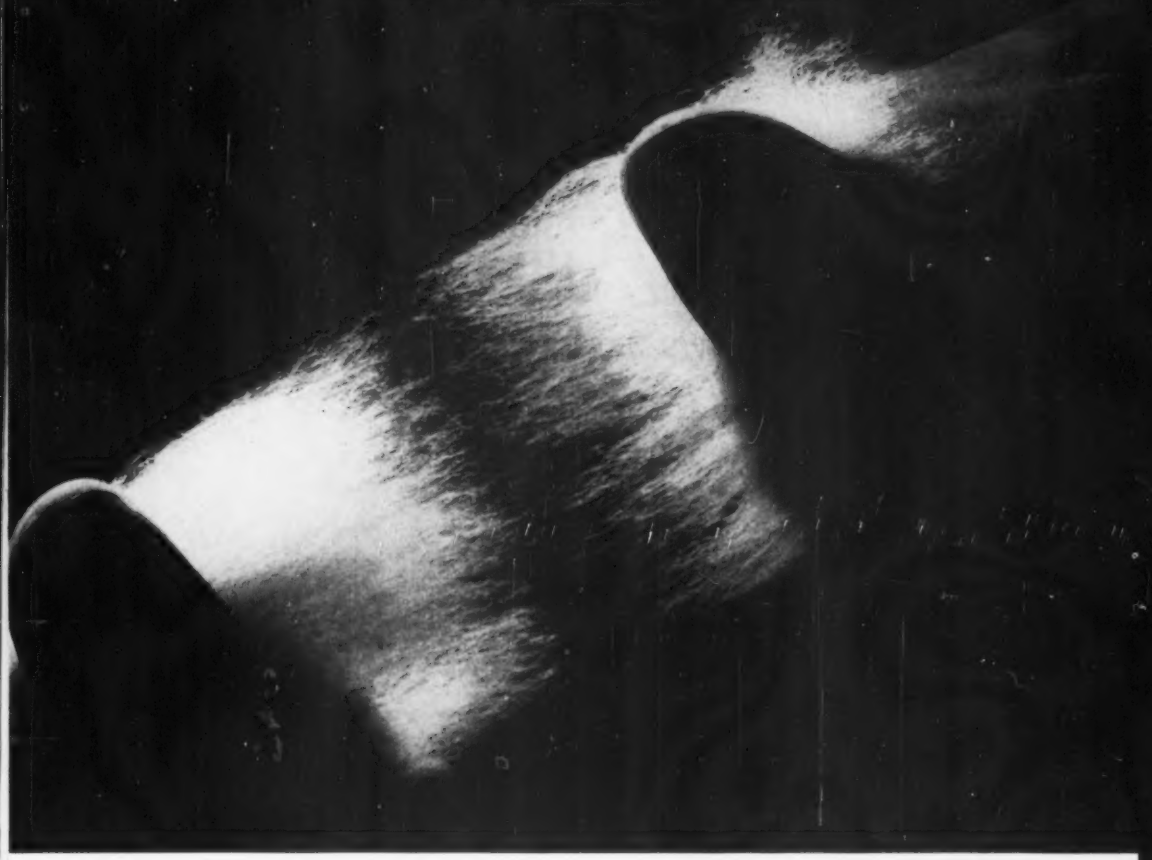
Cutaway of the gear shows how entire unit is slipped over a hardened and ground shaft on which the Needle Bearings operate. Needle Bearings can be used in pinions of smaller diameter than is possible with any other type of anti-friction bearing.

This is only one example of the simplicity and efficiency secured in all types of textile machinery with compact, high-capacity Torrington Needle Bearings. Let our engineers help you adapt them to your equipment for better operation and longer service life. Write us today. THE TORRINGTON COMPANY, Torrington, Conn., or South Bend 21, Ind. District offices and distributors in principal cities of United States and Canada.

TORRINGTON *NEEDLE* **BEARINGS**

Needle • Spherical Roller • Tapered Roller Straight Roller • Ball • Needle Rollers

There is only one TECA* fiber



*TECA is an Eastman trade mark. It identifies a short, crimped fiber made by Eastman from cellulose acetate—a fiber otherwise known as estron or acetate rayon staple.

Teca fiber has a long-sought combination of qualities never before available in any single textile fiber, natural or man-made. By mixing it with other fibers—such as viscose rayon, cotton, or wool—textile designers have created a basically new group of fabrics—the well-known "Teca blends," now in millions of men's and women's suits, slacks, sports shirts, and dresses.

A high Teca fiber content makes for dimensional stability in a fabric. It is one of the best means of achieving lasting wrinkle resistance . . . one of the surest aids in helping a garment hold its press. Pleasant feel, extraordinary soil resistance, inherent washability, quick drying, are other Teca advantages.

No wonder Teca is being featured more and more in retail store advertising . . . no wonder consumers want to be told of Teca-content. Remember there is only one Teca fiber, and Teca is a selling plus. Specify it. Advertise it.

TENNESSEE EASTMAN CORPORATION

(Subsidiary of Eastman Kodak Company)

KINGSPORT, TENNESSEE

"V-Belt Inventory?

. . . it's no problem since we standardized on VEELOS!"

4 REELS OF VEELOS *replace* 316 SIZES OF ENDLESS V-BELTS

Write for your VEELOS Data Book . . . it's free and it's full of engineering, measuring and installation information on Veelos. Everyone interested in power transmission should have a copy for ready reference.

MANHEIM MANUFACTURING & BELTING CO.
MANHEIM, PENNSYLVANIA

"I DON'T like to tie-up operating capital . . . who does? That's why, in our plant, we use Veelos on all v-belt drives. In the old days our stockroom was a dangling mess of endless v-belts. But no more. Now, on wall space only sixteen inches square, hang 4 reels of Veelos. Those 4 reels in O, A, B and C widths take care of *all* our v-belt needs. Simple story sure, but a sound, practical picture of saving money the Veelos way."

And there are other advantages beyond the saving of inventory when you standardize on Veelos, the adjustable v-belt. Veelos is easy to install—just measure and couple. You never dismantle outboard bearings to replace Veelos v-belts—that keeps machine downtime at rock bottom. Uniform operating tension, smooth, vibrationless power delivery and long life are more plus values from Veelos.

ADJUSTABLE TO ANY LENGTH • ADAPTABLE TO ANY DRIVE

VEELOS
THE LINK
V-BELT

Veelos is made in all standard sizes; fits all standard v-belt grooves. Packaged on reels in 100-foot lengths. Sales engineers in principal cities; over 350 distributors throughout the country. Veelos is known as VEELINK outside the United States.

CORROSION COSTS INDUSTRY

$6,000,000,000.00

ANNUALLY!

How much do you pay?

Don't risk needless waste

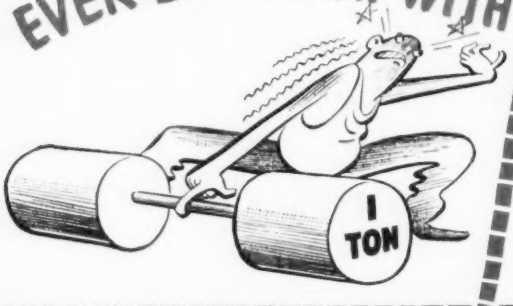
If all corrosion were as obvious as it is in steel pipe, industry would do more about it. But it is not. Often hidden or unnoticed – indoors and outdoors, above ground and below ground – corrosion takes its daily toll. Acids, alkalis, salts, gases and atmospheric conditions all are contributing factors. As a result, industry pays a terrific bill for corrosion – far more than it should. Your own cost, too, may be greater than necessary. Minimize your risk – do these two things now –

1. *Check up on your costs;*
2. *Provide adequate protection for danger points.*

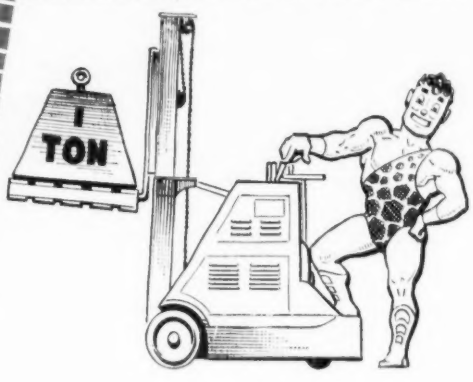
Experienced and competent AMERCOAT engineers are available to help you on both. They'll check up on your costs, which may be greater than you know because the effects of corrosion are often hidden. They'll report on conditions as they find them. They'll recommend steps to take if greater protection can be provided and money saved. Inquiries from interested executives will receive prompt attention. There's no obligation – write today.

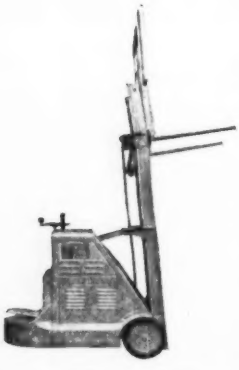
AMERCOAT DIVISION
AMERICAN PIPE AND CONSTRUCTION CO.
Dept. 3T, 4809 Firestone Blvd., South Gate, Calif.

EVER LIFT A TON WITH YOUR FINGER ?



it's easy with MOBILIFT





Three little easy-to-operate levers at fingertip level do all the work on a Mobilift. One hoists loads of a ton or more up to ceiling height. Another controls the tilt of the load. A third lever regulates the machine's travel speed. To make Mobilift even easier to operate it has no gears to shift—going forward or backward at the touch of a lever.

Such ease of operation has built Mobilift a reputation as the most maneuverable of all lift trucks—more trips per hour, more tons of materials per day. Let us show you why Mobilift's easy handling makes such a hit with both warehouse operators and business executives.

Mail the coupon below and we'll send you illustrated literature that explains more about Mobilift's cost-cutting advantages.

MOBILIFT CORPORATION T-5
835 S.E. Main St., Portland 14, Oregon

Please send me your illustrated folder on Mobilift operation.

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"The MIGHTY MIDGET"

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Here's a cure for "weld headaches"

There are combinations of dyestuffs or corrosive chemicals which attack welded areas of stainless steel equipment but leave other areas untouched.

This is caused by carbide precipitation during welding of regular stainless types—carbon combines with chromium at the grain boundaries, robbing these areas of their corrosion resistance. In subsequent severe service, "intergranular corrosion" may result.

If corrosion at the welds is a production headache you'd like to get rid of, Armco Type 316 ELC Stainless Steel can give you quick relief on your next equipment-buy. It is just as corrosion-resistant near the welds as elsewhere. The reason is that Armco ELC is Extra-Low Carbon (.03% maximum). This very low carbon content eliminates harmful carbide precipitation during welding.

Best of all, Armco ELC prolongs service life and sharply cuts maintenance costs. And ***first cost is less*** than corresponding grades stabilized by the addition of columbium or titanium.

If corrosion at the welds is one of ***your*** equipment problems, you'll want more information about Armco ELC. Just ask for the "ELC Folder" when you write. Or your equipment fabricator will be glad to talk things over with you.

Armco Steel Corporation, 3379 Curtis Street, Middletown, Ohio.
Export: The Armco International Corporation

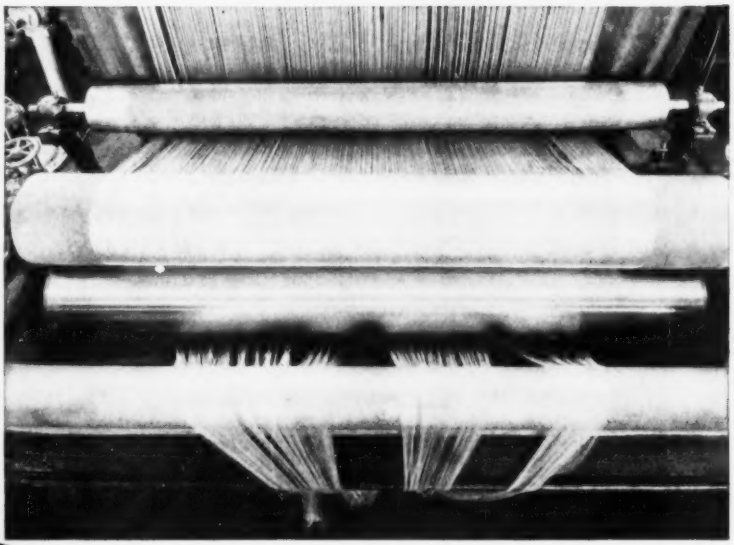
ARMCO

ARMCO STEEL CORPORATION

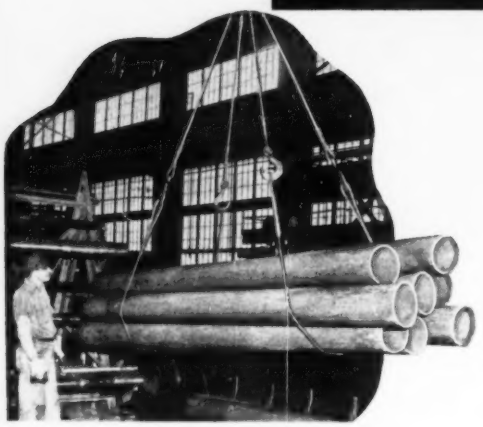
 For more information, write direct or use Reader Service post card.

Make Slasher rolls from Seamless MONEL tubing

The easy way!



Monel covering eliminated the need for frequent refinishing of these rayon slasher rolls. Rolls such as these can now be made from Monel extruded tubing subsequently machined to finished size.



Lifting a load of extruded tube shell at Inco's Huntington, W. Va. mill. Monel, Inconel, and Nickel seamless extruded tubing is now available in outside diameters up to 9¼".

Seamless extruded Monel tubing is now available in outside diameters up to 9¼", with wall thicknesses from ¼" to ⅜".

This means that you can make rustproof, corrosion-resistant slasher and other textile rolls easily and economically by machining the seamless tubing down to size. Monel® is readily machinable: will take and *keep* a smooth polish.

Monel is highly resistant to the destructive action of many dyehouse chemicals including all sizing compounds.

Cleaning is easy, too. Flushing with fresh water is usually all that is needed to keep Monel surfaces clean.

Whenever you need rolls . . . new or replacement . . . check with Inco. You may find that the newly available seamless extruded tubing will enable you to get *better* rolls at an economical cost.

For further information and quotations, write directly to Inco.

EMBLEM OF SERVICE

NICKEL INCO ALLOYS

Monel® • "K"® Monel • "R"® Monel • "KR"® Monel • Nickel "D"® Nickel • "L"® Nickel Inconel® • Duranickel® Permanickel® • Inconel "X"®

THE INTERNATIONAL NICKEL COMPANY, INC.

67 Wall Street, New York 5, N. Y.

®Reg. U. S. Pat. Off.

For more information, write direct or use Reader Service post card.

Whatever Your Packaging Problem May Be— Gaylord Should Be Consulted

Gaylord's Engineering and Research men have come up with solutions to packaging problems that few people realized could be accomplished with corrugated boxes.

Ingenious designs affording ample protection have not only solved many manufacturers' packaging problems but have saved them money, too!

So, regardless of the nature of your product, call a Gaylord Sales Office. The Gaylord representative will make available to you the services of Gaylord's Engineering and Research.

GAYLORD CONTAINER CORPORATION General Offices: **ST. LOUIS**

CORRUGATED AND SOLID FIBRE BOXES
FOLDING CARTONS
KRAFT GROCERY BAGS AND SACKS
KRAFT PAPER AND SPECIALTIES

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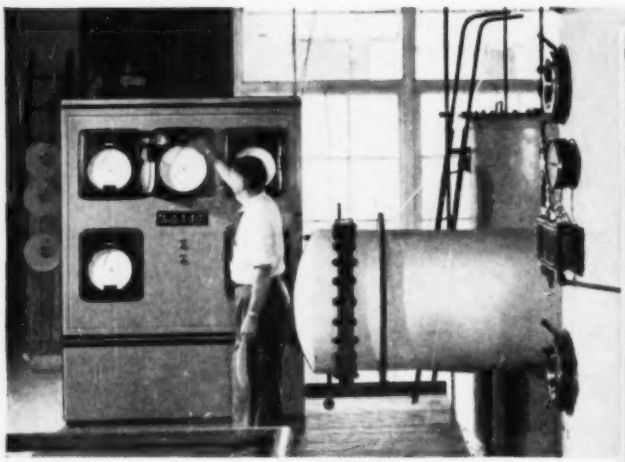
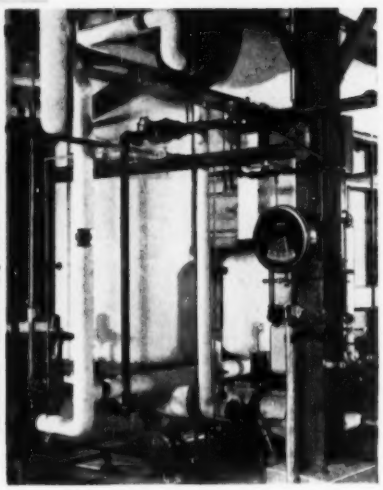
It's here!...

AUTOMATIC EVAPORATOR CONTROL





THE FIRST KNOWN AUTOMATIC EVAPORATOR CONTROL for textile processing (shown above) was installed in the American Thread Company's Kerr Mill at Fall River, Mass. It was designed for Zaremba Evaporators. Careful estimates indicate that this Foxboro Cabinet Control system will pay for itself in less than a year through new, overall economies.

A New Opportunity to Modernize
Another Important Textile Process

By adapting the basic principles of successful evaporator control to textile processing, a far more efficient means of reclaiming caustic is made available. Through accurate, coordinated control of variables, this latest Foxboro development improves caustic reclamation three ways . . . it increases evaporator capacity and saves caustic, thus cutting costs; it helps to reduce stream pollution, and it eliminates routine checking, manual controlling and record writing.

Textile Machinery and Mill men worked closely with Foxboro engineers in developing this important new automatic control system. Such cooperation frequently leads to important processing advances and this is no exception. For complete information on the new automatic evaporator control, contact your nearby Foxboro Field Engineer or write, **The Foxboro Company, 84 Neponset Ave., Foxboro, Mass., U. S. A.**

5 OUTSTANDING FUNCTIONS

1. *controls caustic concentration automatically by electronic comparison of solution's boiling point to boiling point of water at the same pressure . . . a unique method on Foxboro systems, known as "boiling point rise" control —*

2. *accurately measures steam flow and weak liquor flow to indicate efficiency of evaporators for better maintenance —*

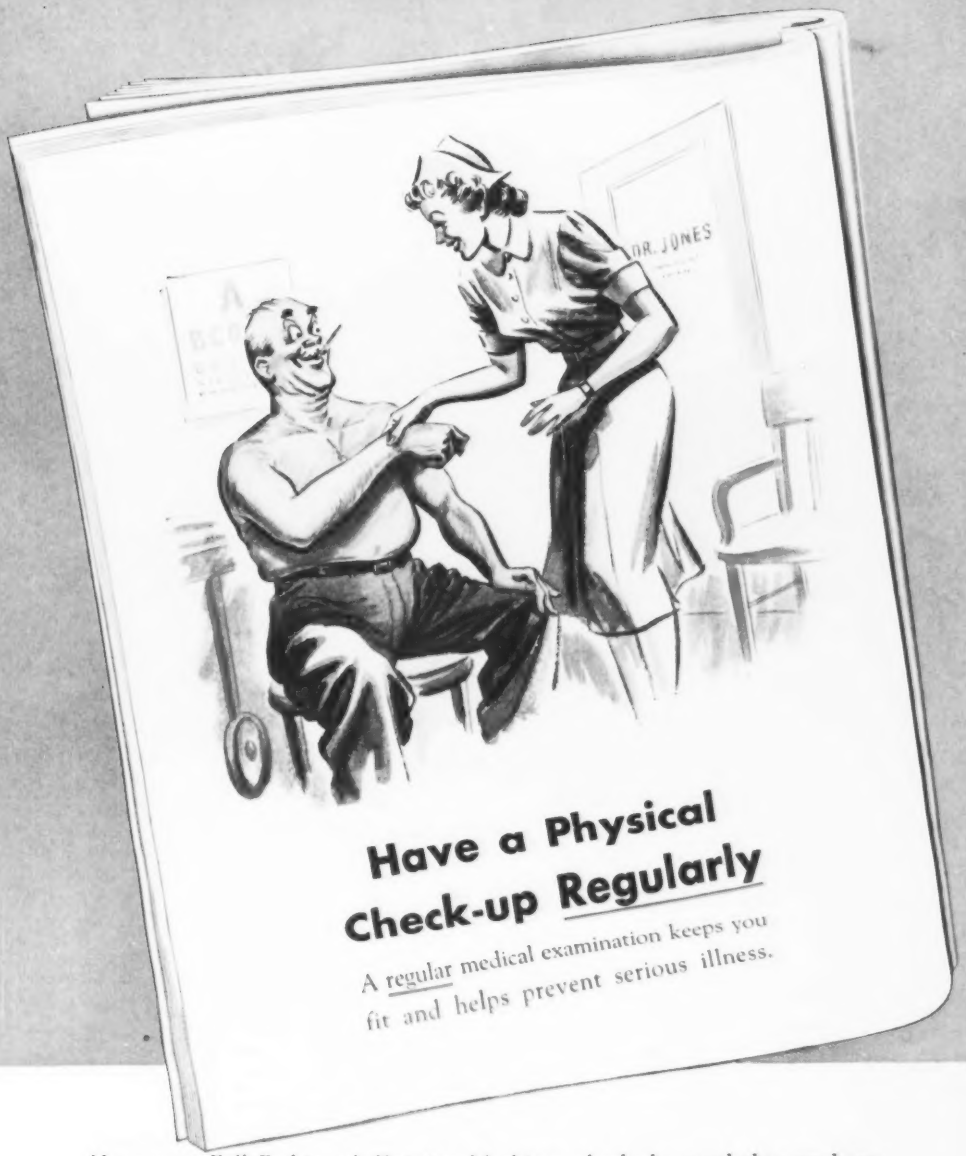
3. *controls liquid level of make-up caustic tanks —*

4. *measures the percent of caustic in steam condensate and condenser hot water leaving evaporator . . . and —*

5. *automatically diverts these to sewer if caustic content rises above safe limits.*

FOXBORO
Reg. U. S. Pat. Off.

Process-Improving Controls FOR THE TEXTILE INDUSTRY



Have your Full-Fashioned Knitting Machines checked—regularly—to keep them at highest efficiency . . . Follow a regular program for reneedling and your needle bars are always in shape for better knitting . . . Follow a regular program for reconditioning and your plant is always at peak performance. We will be glad to discuss this matter of regularity as it applies to your mill operation.

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The "READING"
Full-Fashioned Knitting Machine

Smoothness makes the difference

In Textile Spring-Beard Needles, it's the smooth, mirror-like finish that allows yarn to move around needle ends easier, faster . . . that makes the difference in improved, high-speed knitting. That is why every stage in the production of Textile Needles is so carefully controlled, from the selection of the proper steel to the final packaging operation.

Smoothness is but one of the many advantages you get from Textile's quality controls — automatic and electronic. You get superior tempering, outstanding wear hardness and amazing flexibility . . . qualities that mean better performance and bigger profits from your needle bars.

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SPRING-BEARD NEEDLES

For Full Fashioned and Warp Knitting

Smoother OPERATION!

Ball Bearing Off End Stand

Ball Bearing Comb Box

Here's the companion piece to Southern States' Ball Bearing Comb Box . . . the Ball Bearing Off-End Stand! This new Stand is designed to provide smoother and completely leak-proof operation of your Comb Stocks. It is available for all current makes of cotton cards.

A completely sealed bearing unit, this new stand—when used in combination with the Southern States Ball Bearing Comb Box—eliminates the possibility of oil damage at the front of the card. While adjustments can be made at the Comb Box, the new Ball Bearing Stand will correct **minor** misalignment of the Comb Stock.

Southern States makes available to you **now** either separate unit or combination replacements of your old, worn-out comb boxes, comb stocks, and off-end stands. Purchase them individually or take advantage of complete replacement by ordering the three units at one time. Specify make of cotton card when ordering.

Replace old sleeve-type bearings with the new Southern States Ball Bearing Off-End Stand. Adaptable to **any current make of cotton card,** this efficient unit is completely **sealed,** requiring a minimum of attention. Simply and quickly installed, it is available for either right—or left—hand mounting and can be reversed **right in your cardroom!** You can insure more accurate comb setting—retain this accuracy for the life of the bearing.

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Merlon replaces starch. Gives a fine, soft hand which lasts through a number of washes.

SELLS INTERLINING FABRICS, BLOUSE AND SHIRT EDGINGS:

Here Merlon means a silky, luxurious hand with the required body and stiffness . . . and *wear resistance*.

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Merlon gives popular, low-cost cottons a smooth, soft hand so desirable in dress goods.

SELLS QUILTINGS, AND IRONING BOARD AND MATTRESS COVERS:

Abrasion resistance . . . wear resistance, in a crisp finish supplied with Merlon.

Maybe you don't think of yourself as a drummer or a pitchman. But, if you're a good finisher, then you're *automatically* a good salesman. *You* put the finishing touch on a sale when the customer sees quality . . . feels smoothness, softness, crispness. That's why we turned our laboratory (and more than a few finishing plants) inside out to develop and improve the Merlons for finishes. The results: More and more mills are using Merlon. And Merlon is moving more and more goods. Do a little sales prospecting through the adjoining list of publications. *Then send for free technical bulletins describing the Merlons.* We're sure you'll see, like so many other mill men, that there's money in Merlon.

Merlon offers excellent possibilities as starch replacement in most finishing applications. Merlon KR is the name of a group of six stable polyvinyl acetate dispersions in water. Merlon BR and BRS are polyvinyl butyral dispersions. Merlon S and SP are polystyrene dispersions. Alone or in various combinations, the Merlons produce a wide variety of durable finishes and coatings *without curing or aftertreatment.*

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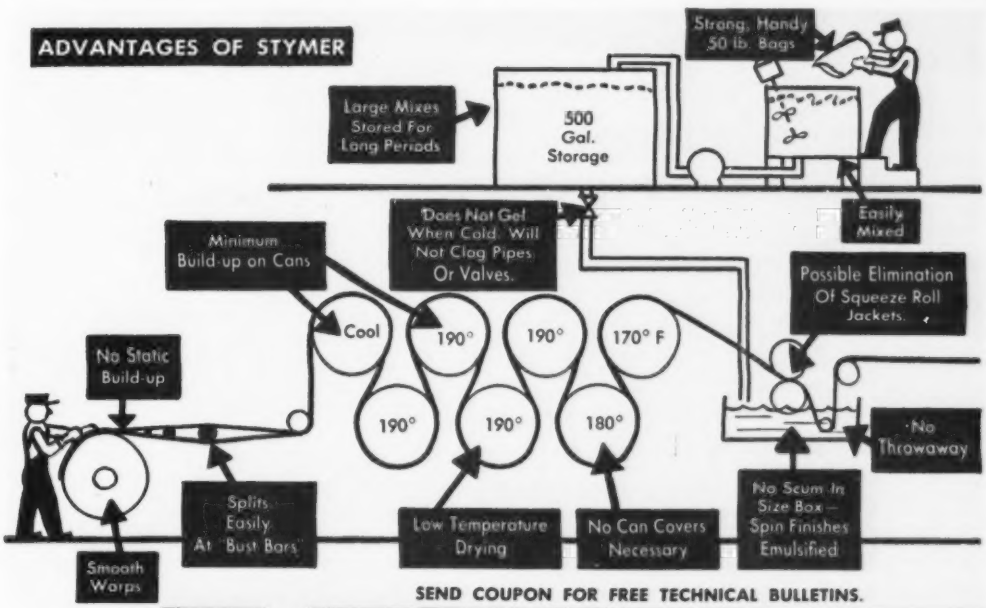
We're proud of the company we're keeping with Stymer. Some of the biggest and most progressive mills in the country. They're using more and more of it, because it gives them a faster . . . more efficient operation. And efficiency is our synonym for *savings*. Here's a chart showing how Stymer cuts costs. Picture those savings in your own plant . . . and on your own balance sheets. Then, please drop a line for full information or for technical help with Stymer in your own mill.



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Only One Specific Type of Product—

WORLD FAMOUS "QUALITY" SOUTHERN SHUTTLES

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Modern in every concept, they are produced in an air-conditioned plant specifically built for the exclusive straight-line production of just one product—**the world's finest shuttle "Southern"**.

Each and every step of Southern Shuttle Manufacture, from selected dogwood to final inspection is scientifically controlled—with master craftsmen directing shuttle experts on each operation.

Pictured here is the home of Southern Shuttles, where dust is unknown, humidity constantly controlled. Interior views, display just a few of the many precision operations necessary in making world-famous Southern Shuttles. They illustrate the immensity of this one operation devoted to Southern Shuttle making, where dogwood is Tempered and characterized by grain structure and density.

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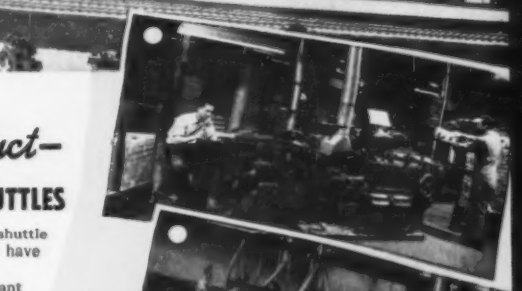
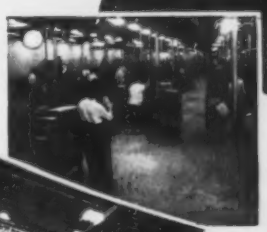
Featuring Tempered Dogwood (plain and fibre covered) and a complete line of shuttle eyes for every loom requirement. Satisfactory performance is guaranteed.

Consult with us on the specialized better shuttle of tomorrow.





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2. Routers operating in battery formation profile cuts and intricate indentations.
3. Skilled craftsmen using secret formula and equipment in Bonding and Covering Dept.
4. Part of Automatic Shuttle Dept.—where precision machining is guided by expert hands.
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2-J-1

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This Loom Motor

Looms Equipped with Allis-Chalmers Loom Motors Run at Top Production Speed—Produce Uniformly High Product Quality

HERE'S A LOOM MOTOR built to give you higher production and better product quality. It's the result of over one-third of a century of experience by A-C in building motors especially for the textile industry.

HERE'S PROGRESSIVE DESIGN

Allis-Chalmers Loom Motors are designed with anti-friction grease-lubricated ball bearings which are packed and sealed by the bearing manufacturer. Oil lubrication is eliminated and you get greater cleanliness around looms, therefore, your maintenance costs go down.

BEARINGS REQUIRE NO ATTENTION

Because bearings are sealed with the right amount of the right kind of grease, they run for many years without any attention. There's no cost for lubrication or lubricant over long periods of operation.

When you expand or modernize your mill, specify Allis-Chalmers Loom Motors for top production, trouble-free operation.

Quick Clean Textile Motors

Especially designed for textile mill use, these Allis-Chalmers motors have wide open air passages, smooth internal surfaces and efficient fans that blow out lint and dirt. They will not clog or overheat. Sealed bearings protect surroundings from grease, require no attention for years. Sizes to suit the usual requirements of spinning frames, twisters, etc.

Lowest Cost Instant Speed Control — New Vari-Pitch *Automatic Sheave — Shows Great Savings In Textile Mills*

Textile men everywhere are proving in their own mills that Texrope automatic sheaves boost productive machine time and cut costs by making instant speed control available for all types of machines at lower cost than ever before. Speed is changed in seconds by simply moving motor. One hand does it and belt tension is automatically maintained. 1½ through 60 hp, 2 to 1 speed variation.

Originator of the Multiple V-Belt Drive for the Textile Industry

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HIGH SPEED TWIST SETTING AND CAKE DRYING WITH DIELECTRIC HEAT

Allis-Chalmers dielectric heaters drastically cut drying time, save space, reduce stock in process and improve quality in rayon cake drying and twist setting operations as well as in many other textile heating and drying processes. Engineering and cost studies made without obligation.

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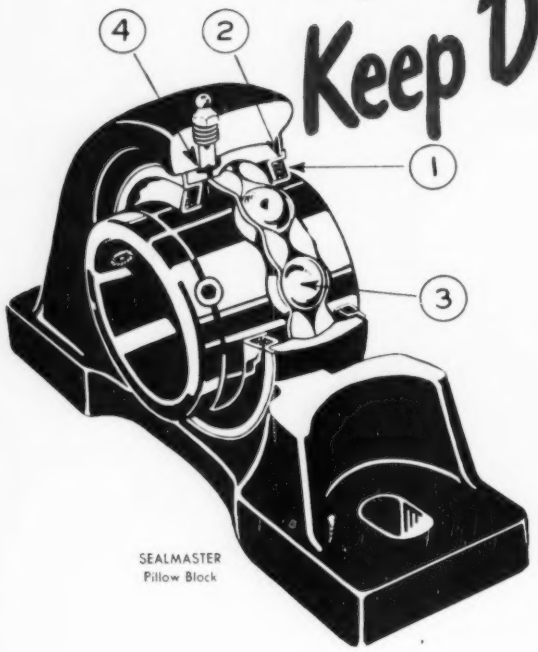
Keep Dust and Fly OUT



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Pillow Block

Only SEALMASTERS Combine These Essential Features

1. **PERMANENTLY SEALED!** Felt-lined steel flinger rotating in labyrinth, prevents entry of dirt and retains proper amount of lubricant.
2. **SELF-ALIGNING!** Bearing unit, with seals independent of the housing, can align itself in any direction without seal distortion.
3. **PRE-LUBRICATED!** The bearing chamber is filled with the proper amount of grease before bearing leaves factory.
4. **NO HOUSING WEAR!** Patented locking pin and dimple prevent rotation of outer race in housing, thus eliminating housing wear . . . permit shaft alignment and position unit for relubrication.

Flange Unit

Cartridge Unit

Flange-Cartridge Unit

●SEALMASTER Ball Bearing Units will modernize your plant. SEALMASTER'S exclusive combination of features prolong the life and reduce maintenance on textile machines. Permanently sealed against entry of dust or escape of grease. Contact the SEALMASTER dealer nearest you or write us direct . . . ask for catalog 845 which gives complete data.

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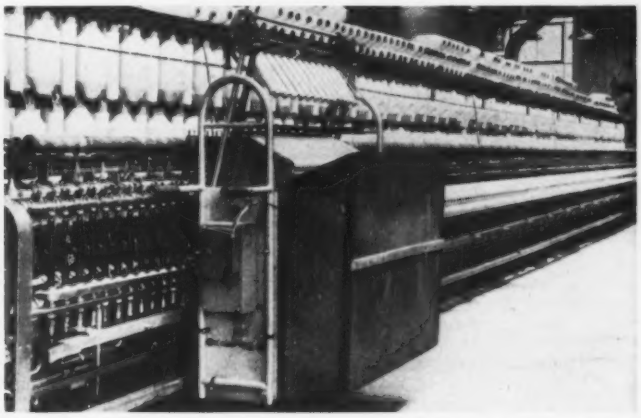


AUTOMATIC DOFFER at left has just removed a full bobbin and the trailing end of yarn is being transferred to a gripping device. (Normally 12 units are doffed at a time.) H. Catling, senior research officer of the mechanical processing division of the Shirley Institute, which developed the machine, is adjusting the doffer. At right is shown the entire unit.

Automatic Doffer and Winder Feed Hits of MANCHESTER SHOW

HIGHLIGHTS: *Other centers of interest were MS 2 slubber flyer, Nastrofil spinner, Hegemax device, 13 automatic winders, high-draft systems, Autojig controls—Many U. S. exhibitors and visitors.*

By JOSEPH S. BARKE

▶ This exclusive report of the Manchester show was prepared under the supervision of E. D. Fowle, publisher of TEXTILE WORLD, who made a special trip to cover the exhibition and to investigate European textile developments.

EXHIBITS OF U. S. textile machinery and supplies attracted much attention at the recent International Textile Machinery Exhibition in Manchester, England. The device that received the most attention, however, was the Shirley automatic doffer for ring-spinning frames. Sharing the spotlight was the automatic bobbin feed for the Schweiter automatic winder, the new Platt slubber flyer, the Hegemax device, and the Nastrofil spinning machine.

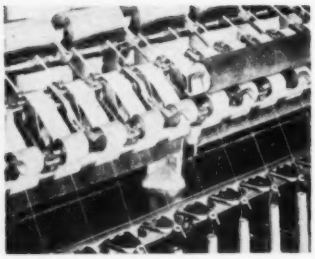
The foregoing equipment and others that received considerable attention are described in the following. However, none of the well-known U. S. exhibits are described.

AUTOMATIC DOFFER. The Shirley automatic doffer for ring frames, called the Autodoffer, was developed by the Shirley Institute, Didsbury, England, and is to be manufactured by Textile Machinery Works Ltd. The doffer is mounted on wheels and is guided by rails mounted on the spinning frame. Presumably one doffer is used on each side of the machine to be doffed. Twelve full bobbins are doffed simultaneously, and empty bobbins placed on the spindles before the machine moves to the next position. After a side is doffed, the mechanism returns, automatically, to its starting position. A special bobbin is used, although it is hoped that existing bobbins might be modified for use with the doffer.

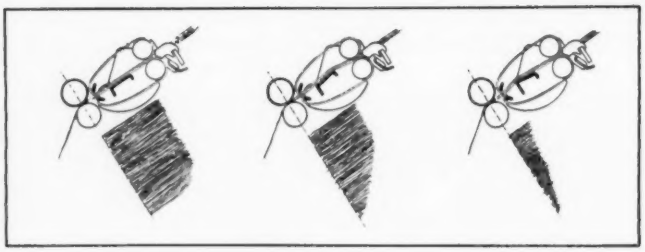
AUTOMATIC WINDER. Of 13 automatic winders exhibited at the show, only the U. S. Abbott and the Swiss Schweiter (Schweiter, Ltd., Horgen-Zurich) had large-capacity automatic-feed devices for empty bobbins.

The Schweiter device is presumably to be built in the U. S. by the Schweiter licensee, Whitin Machine Works. The supply arrangement consists of a large rotating hopper at floor level, an elevating and selecting arrangement, a distribution battery, and an endless chain with clips which engage the heads of the empty filling bobbins and suspend them, tips down, in readiness for release to the individual winding spindle units. The hopper holds up to 1,000 bobbins.

The distribution battery contains nine filling bobbins and a reservoir from which spaces on the endless chain are filled. If a clip on the chain contains a bobbin, it passes the dis-



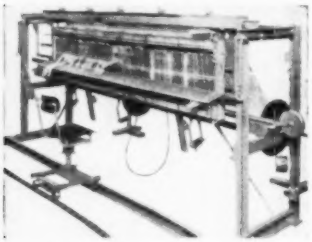
CASABLANCAS S-3 high-draft system for both long and short fibers employs an extremely long apron.



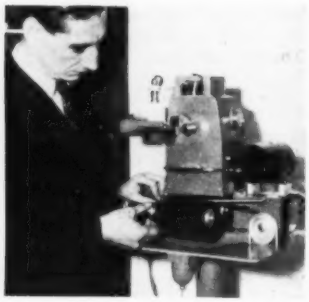
LONG STAPLE (left), mixed staple (center), or short staple (right) can be run by setting removable platform on Casablancas S-3 system as shown.

tribution battery without effect; but if a feeler registers an empty clip, the battery immediately feeds it a bobbin, and rotates one section as it does so. This movement of the battery starts a sympathetic rotation of the feed hopper and elevator, and the hopper passes a bobbin to the elevator by means of a chute. Half way up the elevator is a guard which determines whether the bobbin is being carried the correct way. If not, the guard rejects the bobbin and drops it back into the hopper. From the elevator, the bobbin falls into the distribution battery.

When a filling bobbin has been wound and ejected into the container below the spindle, a trip finger is raised and releases the next empty bobbin on the endless chain which circles the upper part of the machine. This empty bobbin falls into a chute and awaits its turn to be placed in the winding position.



REACHING-IN MACHINE was developed by the British Wool Industries Research Association.



TENSION ADJUSTMENT of reaching-in machine is here being made at the show by G. F. Wilson, of Electrical Productions (Leeds) Ltd., maker of the machine. Immediately above his hands is the illuminated screen against which the operative sees the ends to be selected. Below it is the magazine into which six ends are drawn in rotation.

FALSE-TWIST DEVICE. The Hegemax spinning device was shown at the exhibition by the British licensee, Salford Electrical Instruments, Ltd., Silk St., Salford, Lancashire. This device replaces the normal lappet on a ring frame and has a small orifice, known as a turbine, through which yarn passes. This turbine is driven by means of a larger plastic wheel which is spring loaded and is in contact with a tape, driven through bevel gearing from a roller of the frame. The spring-loaded wheel presses the turbine against two ball-bearing-mounted rubber pulleys, which hold it firmly and positively to ensure that its speed is always constant.

The turbine inserts a false twist to the yarn between the front drafting rollers and the thread guide, and is said to decrease tension on the yarn at this most sensitive point by some 40 to 45%. It is claimed that spindle speeds can be increased by 10% when spinning twist yarns because of the preliminary twisting and decreased tension. Hosiery yarns can be spun with the same number of revolutions per spindle as full-twist yarns, it is claimed, with an increased speed of up to 25%. As a result production of full-twist yarns is said to be increased by 15%.

The speed of the turbine in the device is always slightly higher than that of the spindle, and an important point is that this relative speed must always be constant.

YARN FROM SLIVER. The commercial possibilities of spinning yarn direct from sliver has fascinated mill men for many years, and the latest development—the Italian Nastrofil system—was one of the most popular exhibits at the show. British licensee of the machine is Salford Electrical Instruments Ltd., Silk St., Salford, Lancashire, who also showed the Hegemax spinning device.

Nastrofil [T.W., Jan. '48, p. 148] achieves its results by spinning sliver through seven sets of drafting rollers, which have six drafting zones, each one of which includes a plastic bridge to control and gather the fibers for presentation to the next set of rollers.

The theory advanced is that, with normal systems, once the break-draft has been effected, the remainder of the twist may cause some fibers to cross each other and cause them to be pulled forward by the others before being caught by the top roller.

In the Nastrofil system, the absence of preliminary twist and the considerably reduced surface speed of the rollers in the first stage of drafting are said to permit a regular movement of the fibers and to facilitate their parallel

U. S. Exhibits

The following U. S. firms were represented at the show either directly or by British agents or licensees:

Universal Winding Co. Leesona winders
S. Blickman nylon-size system on Leesona 250 B winder
Crompton & Knowles looms
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Tecalem Bijur lubricating devices
Carrier air-conditioning
Foster Machine Co. winders

arrangement so that only the fibers nipped by the following rollers can be taken forward. The thinning of the sliver is claimed to be produced in a uniform and regular manner; the floating fibers tend to spread as they come out of the rollers, but are held by specially made condensing elements, with the result that the fibers are positively controlled.

The machine occupies a relatively large amount of space compared to conventional machines; but whatever the advantages and disadvantages of the system, the few machines in the exhibition attracted much attention and caused considerable controversy.

PATENTED FLYER. Although it incorporates many refinements and features which have been standard on American machines for some time, the new MS 2 high-draft speed frame produced by Platt Bros. & Co. Ltd., Oldham, has a number of patented features of special importance. One of these is the new patented flyer which is designed to overcome one of the greatest causes of broken ends by inserting a greater proportion of the total twist into the roving between the nip of the front rollers and the top of the flyer. Since the roving has received a considerable proportion of its strength prior to passing down the hollow leg of the flyer, the risk of breakage is greatly reduced.

The new flyer which gives the roving this early twist differs from the ordinary flyer only at the top, where there is a rounded metal projection placed centrally in the opening of the flyer.

Under mill test conditions, it is claimed that bobbins contain a greater length of the roving and that roving strength is increased by approximately 20% as compared with rovings from flyers of the ordinary type.

In addition to the new flyer, fiber control is said to have been considerably improved by the introduction of a new patented guide situated between the front and middle rolls.

HIGH-DRAFT SPINNING. The new Casablancas S-3 high-draft system has been developed to provide a degree of versatility in spinning on cotton machinery which has probably never been equalled, the makers claim. The system uses a double apron to make it suitable for fibers from the shortest staple up to a little more than 3 in., either individually or in blends.

The new system has obvious development possibilities insofar as worsted spinning is concerned; but for the moment, Casablancas High Draft Co. Ltd., of Bolton-street. Salford, Lancashire, has prepared it only for use on existing or new cotton-spinning machinery.

THE HEGEMAX DEVICE for inserting false twist in spinning machines is shown here with the inventor, Edward G. Hegedus. Yarn can be seen emerging from the small turbine which is driven by the larger plastic pulley, which in turn is driven by the tape.

The device has two aprons of much more than the normal length. Although enabling much longer fibers to be drafted, they would be unsatisfactory since the belts would tend to deform and cease to exercise proper fiber control were it not for small removable platforms that have been introduced in contact with the inner surface of the lower apron. These platforms are shaped either to support the bands in the normal flat plane or to deflect them sharply to form a positive nip between the bands at a predetermined distance from the nip of the succeeding front-line rollers. The distance apart of the positive nips immediately preceding and immediately following the delivery nip of the belts can thus be varied by changing the platform in accordance with the staple length of the fiber in process.

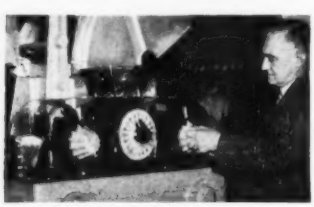
The whole apron device is contained in a cradle, in the side walls of which are slots to take lugs on the removable platforms. To withdraw the platforms, it is necessary merely to remove the weight from the rollers,

ATWOOD TWISTER, a part of the Universal Winding Co. exhibit, is being examined by Edward O. Smith, vice president of the company.

THE BRITOBA automatic filling winder produced by Muschamp Taylor is shown with H. L. Muschamp, managing director. Foster Machine Co. builds MTL machine in the U. S.

raise the platform until the lugs are clear of the slots, and withdraw it sideways from the apron.

For the longest staples, the platform is flat and acts simply as a support for the bottom apron; the fibers are controlled throughout the length of the apron. With somewhat shorter fibers, or mixtures of shorter staples, the platform is replaced by others which provide a positive nip between the top and bottom aprons with distances from the nip of the front rollers varying according to the length of fiber in process.



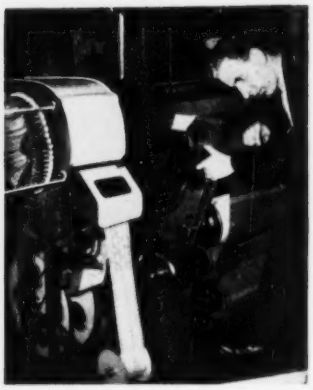
AUTOJIG MODEL shows how control system is applied to jig-dyeing machines. It is being operated here by F. Smith, of F. Smith & Co. (Whitworth) Ltd., the manufacturer.

10 TO 90 DRAFT. The new Balmes system of high draft is being made by Platt Bros. & Co., Oldham, and is fitted to their new ring frames. Main advantages of the system are said to be that the system gives an improved yarn quality and reduces the number of preparatory processes required.

Thorough constant guidance of the strand and gathering-in of all loose fibers, even, cylindrical yarns without floating fiber are said to be produced. Fly and waste are also claimed to be reduced.

The strand of fiber from the creel bobbin is presented to the back line of rolls through a condensing funnel attached to the back roving guide; the funnel has a constant traverse. The function of the funnel is to draw into the main body of the strand all those fibers which tend to protrude before they are subjected to any drafting action.

There is a partial draft between the back and third lines of rollers of between 2.0 and 4.5, depending on the staple length of the material being processed. This draft breaks down the twist and may be compared to a



CHENILLE FILLING LOOM by Fielding & Son (Werneth) Ltd. has a color selecting unit which is here being adjusted by C. Wood of that company.

passage through speed frames without insertion of any subsequent twist. The action is smooth and slow and does not seem to result in fiber breakage.

Situated between the third and second bottom rollers, and resting on both of them, is a patented self-weighted control roller. The fibers, on emerging from the nip of the third line of rollers, pass through the nip of the control roller and the third bottom roller. Following a curved path underneath the control roller, they go through the nip of the control roller and the second bottom roller. The fibers are in contact with the surface of both the second and third bottom rollers over an appreciable area. There is no draft between these two bottom rollers; the control roller serves simply as a guide.

A small button located on the upper part of this control roller is used for removing or replacing the roller. Positioned on the lower part is a patent moveable condenser, which traverses synchronously with the back condensing funnel. The condenser, open at its lower end, is held in contact with the fibers by gravity.

Following the control roller is a light self-weighted pressure roller that acts as a pressure regulator. It is placed on the second bottom roller, close to the front line of rolls. The combination of the control roll and the moveable condenser provide excellent control and a steady grip on the fibers.

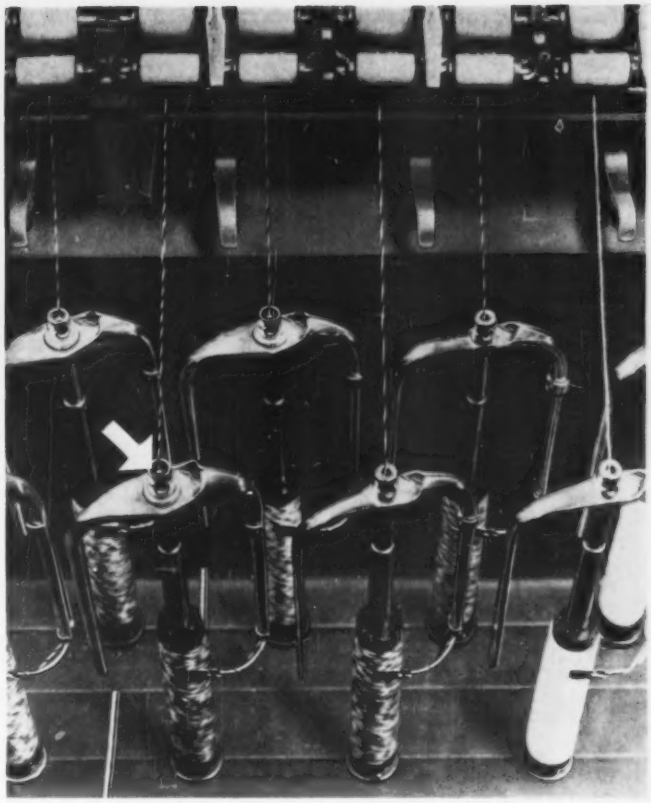
A further patented condenser is situated between the pressure roll and the front line of rolls. Open at its lower end, it is simple to adjust, and freely follows the traverse of the fiber strand. It can be removed and replaced while the frame is spinning without causing yarn breakage. This condenser groups the fibers together and presents them

NEW HIGH-SPEED BEAMER has impressive control panel. W. H. Kimpton, who designed the machine for Harrison Knitting & Textile Machinery Co. Ltd., is shown operating the controls.

to the front roller nip. As soon as they emerge from the nip, twist binds them together.

Depending on the staple length of the material, the final draft varies from 5 to 20. In conjunction with the partial draft, this final draft provides a total draft of from 10 to 90. While these figures represent average conditions, higher drafts may be obtained when required.

Spinning may be carried out from slubbing, intermediate, or roving-frame bobbins, either single or double. In the majority of cases, spinning is reported to be carried out directly from a slubbing bobbin, or after one passage through a high-draft speed frame.



ARROW SHOWS DEVICE that causes most of the twist to be put into roving between the nip of the roller and top of the flyer on the new MS 3 speed frame by Platt Bros. & Co. Ltd., described on page 103.

AUTOMATIC JIG. American visitors to the exhibition showed considerable interest in a number of dyeing and finishing machines and accessories. Prominent among these was the Auto-jig, shown by F. Smith & Co. (Whitworth) Ltd., Rochdale, Lancashire. The automatic device is designed for applying to existing or new dye jigs to make them fully automatic machines. The machine is available in the U.S. from B. F. Perkins & Sons, Holyoke, Mass.

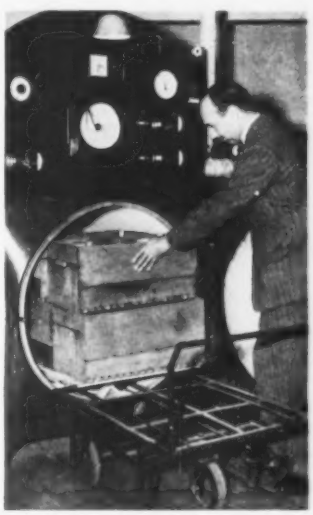
An important claim for the machine is that it gives a constant cloth speed and controlled cloth tension throughout the run of the piece. Once the machine has been set, it will give a predetermined number of runs of cloth through the dye liquor. It reverses itself automatically at the end of each run; and after completing the set number, will switch itself off.

Switches in the control panel control whether the jig is to run automatically or manually. Two switches give a "left" or "right" start according to which way the cloth will wind on its first run through. Controls for the reversing of the cloth and the number of runs are also included and are so arranged that at any time during the process, the operator can see how many runs remain to be completed. The cloth is taken through the machine in a smooth and almost tensionless manner, an advantage which makes it particularly useful in the dyeing of delicate fabrics.

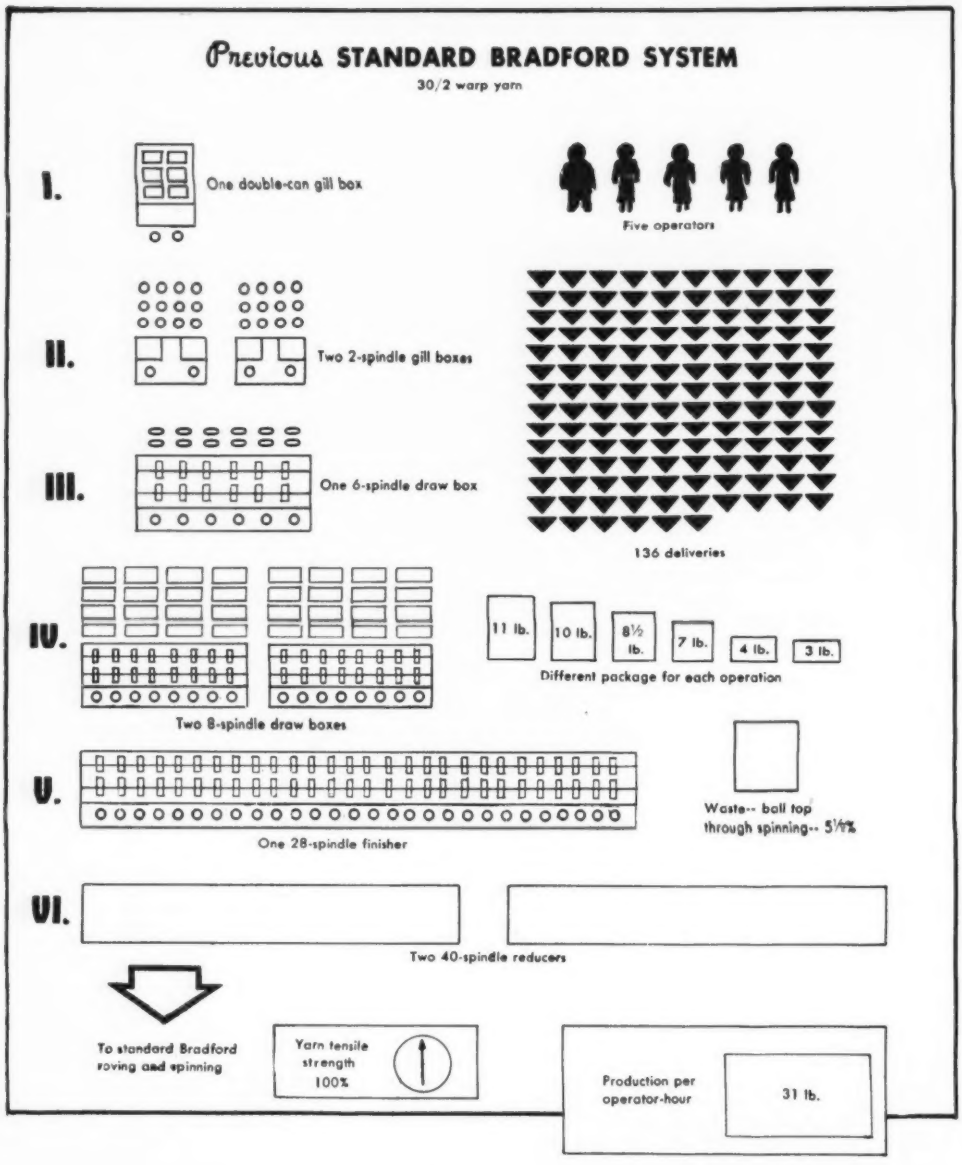
REACHING-IN MACHINE. A reaching-in machine which works at a speed dictated by the speed of the operative in charge has been developed by the British Wool Industries Research Association and was shown by the makers, Electrical Productions (Leeds) Ltd., Hope Road, Regent St., Leeds 2.

An essential feature of this machine is that the operative sets the pace. If a worker is capable of drawing-in 2,000 ends or more per hour, the machine will keep up with him, or, alternatively, will wait for him if he

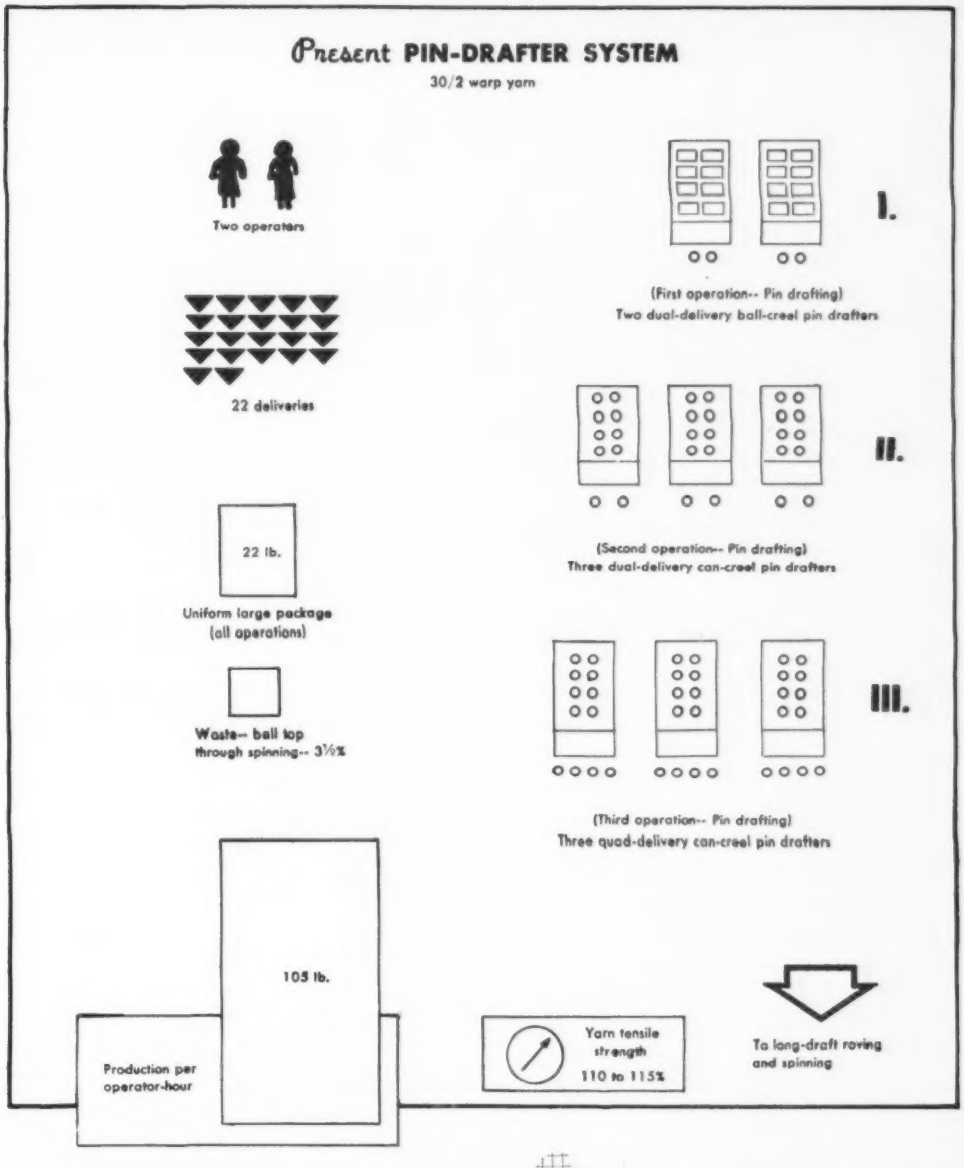
(Continued on page 232)



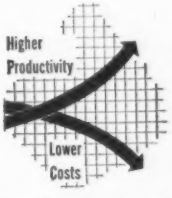
VACUUM STEAMER for crepe yarns is demonstrated by Charles R. Holroyd, managing director of Sanderson & Co. Ltd.



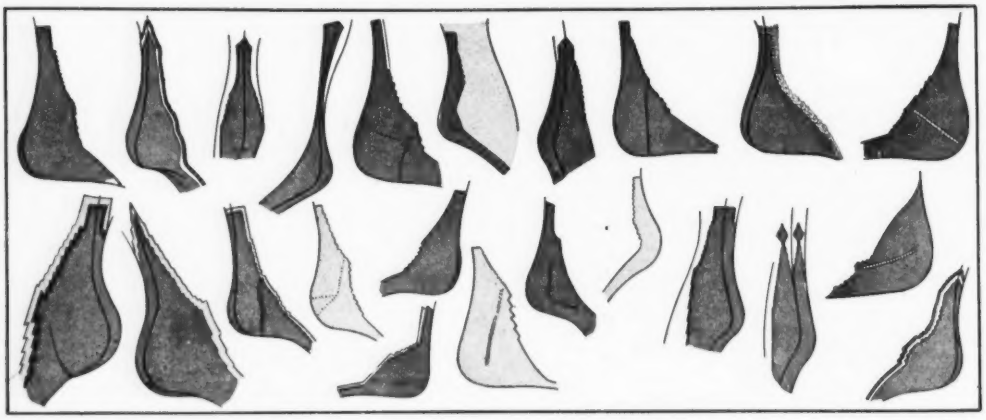
Stronger Yarn At Lower Cost Produced by PIN DRAFTERS



HIGHLIGHTS: *Six-step Bradford system replaced by three-step pin-drafter system—Production per man-hour and yarn strength increased—Waste and labor cost reduced.*

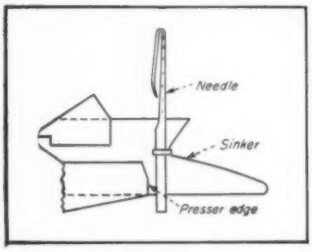


A SIX-STEP BRADFORD-SPINNING organization has been replaced with a three-step system using Warner & Swasey pin drafters at a prominent New England worsted mill. The result has been a reduction in labor costs and waste, and an increase in production per operator-hour and in yarn strength. The above charts show the old and new organizations and show specific gains made at each step and over-all. In addition to the figures shown, the company states that proportionate savings are also made in subsequent processing. The company further states about the yarn produced, "Loftier yarn [is produced] giving more body to the fabric, resulting in a fuller, kinder handle to the goods . . . . a cleaner yarn containing less slubs."



ANY OF THE HOSIERY HEELS shown here can be made on a full-fashioned machine equipped with late-model French-heel and split-sole attachments. Some heels illustrate the current popular use of colored decorative yarns.

Novel HOSIERY HEELS Are Produced in Wide Range



A REINFORCING HEEL YARN is spliced in at the desired points by an increased movement of the regulating shaft. The needles are moved closer to the presser edge, as shown here, and sinkers and dividers extend more deeply between needles.

HIGHLIGHTS: *Distinctive heels are sought to stimulate sales—Black, cordovan, and navy blue lead the color trend—French-heel and split-sole attachments give machines wide styling possibilities.*

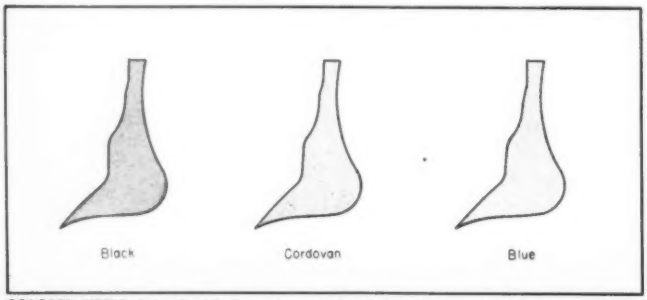
By H. B. LeFEAUX
Consulting Editor, TEXTILE WORLD

THE OLD SAYING that history often repeats itself might be a fitting saying today in the women's hosiery business. Since competition in this field is keen, most manufacturers are thinking up ways and means of coming out with a stocking that is different.

Emphasis is being placed at present on twist in yarns and on novelty heels, with the latter predominating. Some of the heels now being made are of the same types made back in the days of silk. For example, colored heels—such as black, cordovan, and navy blue—are fast coming back into style.

The colored yarns from which these heels are made must be dye resistant, or they will bleed during the actual dyeing of the stocking. Bleeding is especially apt to occur with the black heels.

Full-fashioned-machine manufacturers have provided a reinforced-selvage attachment (or pointex rack, as it is more commonly called) that is more flexible than what the older-model machines had. With this attachment and added splicing blocks and stops, a wider range in novelty-heel construction is possible. The pointex attachments are readily adaptable to increasing or decreasing the width of the reinforcing or splicing.



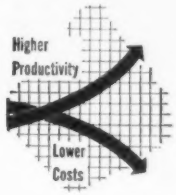
COLORED HEELS, knitted with dye-resistant colored yarns to prevent bleeding when overdyed in the stocking, are making a rapid style comeback. Bleeding is a problem with cordovan and navy-blue heels, but more trouble is encountered with black.

SPLICING. In order to use an extra thread during the splicing, it is necessary to cause the sinkers and dividers to sink more yarn at these points to make the loops larger. This job is

(*Continued on page 224*)

Production-Improving Technology Presented at AATCC ANNUAL

HIGHLIGHTS: *Information from papers and exhibits useful in every mill department—Application of finishes and dyeing of synthetic fibers stressed—Wealth of new equipment, processes, and supplies shown in exhibits.*



A WEALTH OF TECHNOLOGY useful in improving production and reducing costs was set forth in the papers and exhibits at the recent annual convention of the American Association of Textile Chemists & Colorists at Atlantic City, N. J. All papers discussed better methods of handling old and new fibers; application of new dyes and finishes was particularly evident.

The exhibit section, with 70-odd exhibitors, took its place this year among the major annual or biennial textile shows.

Attendance at the convention and exhibits also broke all previous records. General consensus was that the 1949 convention was the biggest and best ever held.

Plans for the 1950 convention were announced—the meeting to be held Sept. 28, 29, and 30 at Wentworth-by-the-Sea, Portsmouth, N. H. The 1950 convention will also feature exhibits, and will be sponsored by the Rhode Island Section of the AATCC.

C. Norris Rabold, vice-president of the AATCC, director of research, Erwin Cotton Mills, Cooleemee, N. C., and consulting editor, TEXTILE WORLD, will take over the presidency of the AATCC at the National Council Meeting to be held Jan. 12 and 13, 1950, at the Hotel New Yorker, New York, N. Y.

TEXTILE WORLD has endeavored to present in the following text a review of information presented in papers and exhibits at the convention which will be of particular interest to mill-operating executives.

CHARLES A. SEIBERT (right), of E. I. du Pont de Nemours & Co., was presented the Louis A. Olney Award at the recent convention of the AATCC in Atlantic City, N. J. The award is for outstanding achievement in textile chemistry. The award was made by Henry F. Herrmann, national president of the AATCC.*

The award winner has been associated with textile chemicals for the past 50 years. Mr. Seibert, between 1910 and 1914, collaborated in the first use of cold-dyeing Algol colors to dye U. S. Army cotton uniform cloth on the jig in khaki and olive-drab shades. Other scientific achievements for which Mr. Seibert is known include applying vat dyes for the first time on a practical scale to both raw and boiled-off silk. He was also the first to dye silk with selected sulphur dyes, using caustic soda and hydrosulphite to dissolve the dyes. Mr. Seibert also collaborated in developing the "one bath" method for resisting woolen yarn with tannic acid so that it could be woven into men's wear woolens to withstand subsequent scouring, fulling, and cross-dyeing with acid or top-chromed dyes and serve as colored effect yarns. Mr. Seibert was chairman of the Philadelphia Section, AATCC, from 1930 to 1931, and was for three years a national vice-president of the association. He has also been chairman of five research committees of the AATCC.

*(*Since receiving the award, Mr. Seibert has retired from the Du Pont organization.—Editor.)*

ABSTRACTS OF INTERSECTIONAL CONTEST PAPERS

Acid Colloids of Resins

By the Rhode Island Section

Winner of First Prize
In Intersectional Contest

Low-temperature curing, excellent retention of hand imparted, and practically no loss in fabric strength are three advantages found when acid colloids of resins are used in finishing. To date, most work has been done with the acetic-acid colloid of methylated trimethylol melamine, particularly on wool fabrics, to control shrinkage and maintain a soft hand. Five different acids, however, have been found to be of value in forming colloids of resins; and more might be discovered.

Plasticizing agents or other modifying materials are essential adjuncts to acid colloids in textile finishing. From the large number of such materials available, only four or five seem to be suitable in respect to having plasticizing power, stability, and compatibility.

Practical Tests for Quantitatively Evaluating Dye Characteristics and Dyeing Methods

By the Northern New England Section

Winner of Second Prize
In Intersectional Contest

Four simple tests can evaluate the behavior of a dye and are particularly valuable when comparing one dye with another. The tests are those for (1) exhaustion, (2) leveling, (3) penetration, and (4) strike.

In evaluating dyes by means of these four tests, a spectrophotometer is desirable; however, some simpler form of colorimeter can be used, or even ordinary visual examination.

These tests can also be used to com-

pare one tone dyeing with another, or to determine the effect of an addition to the dyebath during the dyeing procedure.

Dyeing Mixed Acetate-and-Viscose Fabrics with Vat Colors

By the Piedmont Section

Winner of Third Prize in Intersectional Contest

Vat colors can be used to union dye acetate-and-viscose rayon blends without the use of swelling agents and with little or no saponification of the acetate. The foregoing is possible by means of two compounds that can increase the pickup of reduced vat dyes by acetate rayon. The substances found most effective are tannic acid and a commercial phenol-sulphur condensate. They can be used, according to results found, either alone or in combination.

A 30 to 40 min. hot treatment with a commercial phenol-sulphur condensate should prepare acetate-and-viscose blended fabrics for dyeing in reduced vat colors. As little caustic soda as practicable should be used. Tests have shown that a wide range of vat colors can be used, and the acetate saponification can be negligible. A drawback, however, is that such dyeings have shown a strong brown discoloration after one to two hours of exposure in the Fade-Ometer.

When tannic acid was used alone, even high concentrations gave results just short of producing union dyes. With the addition of a little of the phenol-sulphur condensate, color union improved. No browning was noticed when resulting dyed fabrics were exposed in the Fade-Ometer.

Both the reduced method and the pigment-pad method of applying vat colors have been used successfully on fabrics treated with the mixture of compounds. Padding is prepared and is carried out as follows:

The goods are padded through the tannic-acid and phenol-sulphur solution containing the vat dye in pigment form. These goods, either wet or dry, are run into reducing solutions containing caustic and hydrosulphite, plus salt and white-corn dextrine as required for the color being applied.

Resulting dyeings have shown very fine fastness and resistance to gas fading.

The Application of the Differential-Dyeing Test for Fiber Maturity to the Processing of Cotton

By the Southern Section

Two lots of cotton, about equally priced on the basis of a classer's designation, were found to respond differently to a relatively new dyeing technique. One lot was shown by the dye test to have an excessive amount of immature fibers and, in processing, not only gave double the amount of waste, but also produced a yarn of a lower grade.

The dye test has also been used to indicate differences that might be expected in blending and to show the maturity—or immaturity—of cotton fibers in cotton waste. Combing is the only textile operation that has a definite tendency toward removing thin-walled (immature) fibers.

The dye test is of especial value in selecting cottons for use in fabrics where neppiness is particularly objectionable, as in denims. The dye test appears to be more reliable for showing up cottons with a high percentage of immature fibers than is the Micronaire fineness test.

[For details of the dye test for maturity, see TEXTILE WORLD, July, 1947, page 105. Reprints are available.—Editor.]

Dimensional Changes Occurring in Spun-Viscose Rayon Fabrics During Finishing Operations on Machinery Used for Obtaining Shrinkage Stabilization

By the Philadelphia Section

Knowledge of what happens to a spun-viscose rayon fabric before, during, and after chemical treatment in finishing is expected to result in improved fabrics of more uniform quality.

Two rules have been worked out as the result of tests involving chemicals such as urea formaldehyde, melamine formaldehyde, glyoxal, and alkali-soluble ethers in combination with formaldehyde. They are: (1) Normal tensions (such as met with in padding and rolling up, clip tentering, and the like) on the warp and filling up to the step of final washing and drying help to obtain good results on final stabilization; but tension during or after the final drying must be kept to a minimum. (2) A wash test of a cured section of a fabric can be used to predict what dimensional changes will be allowable in the future processing after curing. The sum of the processing gain or loss after curing and the shrinkage value of the wash test at the same point in the process should give a figure equal to the desired final processing figure.

A New Approach to the Evaluation of Wool Oils for Resistance to Oxidation in Storage

By the Mid-West Section

It has been found that the effect of normal aging of wool oil for a year can be determined in three weeks. The accelerated aging is done by putting 10% of oil to be tested on wool swatches and then keeping the swatches at 120° F. for three weeks under constant humidity.

Ten of eleven oils so tested deteriorated as much in three weeks as did comparable samples aged normally for a year. The oils tested included 100% saponifiable types such as lard and peanut, mixtures of saponifiable and mineral, 100% fatty esters, mixtures of esters and mineral oil, 100% sulphonated mineral oils, and the newer so-called "self-scouring" oils of a saponifiable and unsaponifiable nature.

Previous methods of testing might work well for one type of oil (such as the saponifiable) but not for another (such as the mineral).

Factors Influencing Crockfastness of Naphthol Package-Dyed Cotton Yarns

By the South Central Section

Crockfastness of naphthol-dyed yarn, dyed in package form, must be improved to meet the demands of knitters. In a study involving 2% dyeing of Naphthol ASSW developed with 2% KB base and 7% salt, the following factors were found to influence crockfastness: yarn preparation, manner of naphtholation, manner of developing, soaping, and softening.

Little, if any, difference in crockfastness was found between yarns from different sources if they were prepared similarly. Uniform density of packages, however, affected both uniformity of shade and crockfastness.

Naphtholation at lower than normal temperature was found to produce improved crockfastness. Excess salt to exhaust the naphthol is to be avoided. Use of formaldehyde does not seem to affect crockfastness.

The use of a sequestering agent in the developing bath will improve crockfastness. It may be that soap or detergents used affect crockfastness or that a softener used may have some influence. Conclusions have not yet been reached on these two aspects.

ABSTRACTS OF TECHNICAL PAPERS DELIVERED AT AATCC CONVENTION

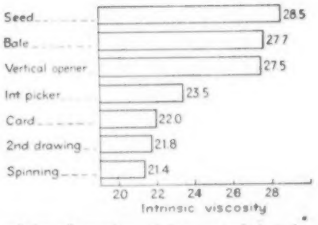
In the following abstracts, the editors of TEXTILE WORLD have tried to publish only that information given in the papers which would be of value to mill men concerned with production and engineering problems.

Current Research at Textile Research Institute

By Dr. J. H. Dillon

Textile Research Institute

The first known radioactive dyestuff, wool acid dye Anthraquinone Blue SKY, tagged with Sulphur 35, has been developed by a TRI man working at the Brookhaven, L. I., N. Y., laboratory of the Atomic Energy Commission. It is expected that the radioactive dyestuff will aid dyeing studies being made at TRI on fundamentals of the dyeing process, and will particularly help research into dye and



salt-ion absorption. It is expected that the new dyestuff will also permit quick and simple measurement of dye absorption, crocking, etc.

Studies of the degradation of cotton fiber have revealed that a 30% over-all degradation between the bale and the yarn takes place in manufacture of cotton yarn. Cottons used were Empire and Stoneville. Further research is being carried on to

determine in which machines the degradation takes place. The chart reproduced on page 110 shows the intrinsic viscosity (which is directly related to amount of degradation) of cellulose at the various stages of processing. The amount of degradation at each step can be seen from the chart, and it is indicated in early experiments that the vertical opener inflicts the greatest amount of damage of any machine along the line.

Vat Dyeing—Importance of An Initial Dyeing Rate

By O. W. Clark and H. R. McCleary
Calco Chemical Div., American Cyanamid Co.

In choosing dyes which will work well together, a dyer will find that the initial exhaustion rate is of more importance than equilibrium-exhaust data. It has been shown that in continuous reduced dyeing for vat colors, the foregoing applies; but initial exhaustion-rate data should also be used in the application of other classes of dyes and other processes.

The initial dyeing rate of a number of vat dyes has already been determined by means of a dyeometer. Experimentally, prediction of dyes which would work well together follow closely the initial equilibrium-rate data obtained.

A Proposed Continuous Rapid Bleaching Process for Bleaching of Cotton

By L. P. Seyb and J. L. Foster
Diamond Alkali Co.

A continuous, rapid cotton-bleaching process utilizing essentially caustic soda and sodium hypochlorite seems to be possible. Conventionally, when using sodium hypochlorite (chemic) the general procedure is to singe gray goods, scour with mineral acid or desize with an enzyme, kier boil for 10 to 14 hr. with a dilute caustic-soda solution, and treat with dilute chemic followed by the usual antichlor, washing, and finishing steps.

To develop the rapid bleaching process, particularly a continuous one utilizing caustic soda and chemic, the usual 10- to 14-hr. kier-boil operation must be considerably shortened.

The proposed process comprises treating singed gray goods with a sodium-hypochlorite solution of controlled alkalinity, instead of an acid sour or an enzyme desizing agent, followed by steeping. Next, the goods can be saturated with 3% caustic soda and steamed in J-box equipment. If J-box equipment is not available, the fabric can be plaited into a kier and boiled with an aqueous caustic-soda solution followed by treatment with sodium-hypochlorite solution of controlled alkalinity. When the alkalinity of each of the hypochlorite-treating steps is controlled to a pH between 8 and 9, the approximate time required for each is ½ hr. If the J-box steaming is used it need be no longer than 1 hour; or if a kier is used, 3 hr. boiling is sufficient. The various rinsing and auxiliary steps accompanying both the general commercial practice and the proposed process are, of course, used.

The proposed process departs from the conventional principally in that singed gray goods are treated with sodium hypochlorite before the caustic-soda treatment, and that the pH of the sodium-hypochlorite solution is maintained within the range of 8 to 9 before and after the caustic-soda treatment.

Laboratory tests and mill runs both confirm the practicability of the new continuous process.

Attention: Full-Fashioned Hosiery Finishers

A very informative abstract of the paper "A Survey of Recent Developments in Wet Processing of Full-Fashioned Hosiery," delivered by Mr. Harold L. DeTurck, superintendent of dyeing, Berkshire Knitting Mills, Reading, Pa., appears elsewhere among the feature articles in this issue. Mr. DeTurck discusses thoroughly Berkshire techniques and experiments on processing various types of full-fashioned hosiery.

Nylon Staple in Hosiery

By E. H. Heckert
Sales Development, Nylon Div.
E. I. du Pont de Nemours & Co., Inc.

An investigation into pilling of spun-nylon hosiery indicates that yarns containing low twist will pill more readily than yarns containing higher twists. Twist binds the filaments together and makes it more difficult to tease the ends out. Investigation also shows that loose-fitting fabrics will pill faster than the same fabrics held under tension. This fact emphasizes the need for better elasticity and better shape retention in spun-nylon half hose. Following the same line of reasoning, one should remember that fabrics knit from yarns representing low-denier-per-filament staples will pill more readily than those representing high-denier staples, if all other factors such as twist, finishing, etc., are equal.

Only one method has been uncovered which does not adversely affect the quality of the spun-nylon half-hose. This method involves the use of significantly higher twists than are currently being used in most spun-nylon machine-knitting yarns. A twist multiple of from 4 to 4.5 for cotton-spun yarns which are later plied with a twist multiple of 3.25 gives very good resistance to pilling. It was also indicated that for spun-nylon yarns made from longer staple lengths, approximately the same degree of twist is required. The minimum twist for single yarns frequently used without plying has not been established. However, limited data indicates that slightly less twist is permissible for these yarns.

In yarns spun from 1½-in. staple, little or no effect on the loss or coverage and the hand of spun-nylon yarns was observed in increasing the twist from a normal knitting twist to the higher level. In the case of yarns spun from longer staples ranging up to 5 in., there was some loss in coverage and loft. Other methods of improving the loft and coverage of spun-nylon yarns is by the use of crimp-set staple. Use of the crimp-set staple also improves the insulating value, or the warmth, and the elasticity of the knitted fabric. Through its use, half hose can be knit which fit better and have less tendency to pill.

By using a special skeleton half-hose form along with steam at 35 to 40 lb. psi. pressure, crimp-set half hose can be boarded without adversely affecting the desirable loft and hand characteristics of this type of hose. The skeleton half-hose form has a minimum amount of metal surface in contact with the half-hose, permits rapid circulation of the steam throughout the knitted fabric, and greatly reduces the amount of steam and time required to bring the half hose up to the desired temperature.

Static Problems in Textile Processing

By E. J. Lehmicke
E. I. du Pont de Nemours & Co., Inc.

The processing of staple is more seriously affected by static than any processing of continuous-filament yarn. Under no circumstances could nylon staple be run through any of the processes on any of the staple systems without adequate protection by an anti-static finish. During opening and picking, improperly finished staple will not even leave the machine to form a lap. During carding, the web will completely disintegrate, and if it can be persuaded to form a sliver, the sliver will not leave the coiler head nor drop into the can. The same conditions prevail in drawing. The only complete remedy for these troubles is the presence of a sufficient quantity of anti-static material included in the finish. In some cases, the trouble may be alleviated by increasing the humidity or by use of static eliminators.

In nylon-staple processing, a relative humidity of 60 to 65% is desirable to prevent static difficulties during opening, carding, and drawing. During spinning, however, the relative humidity should be below 50%, because higher humidities at this stage cause high end breakage. Proper humidity has been the remedy for static troubles in many of the processes with continuous-filament yarn as well.

Long bars of a radio-active eliminator, or long tubes of a high-frequency eliminator may be placed near the calender rolls of the picker. These bars are also useful placed over the web on the card. On the drawing frame, shorter bars may be placed over the web, fastened to the front of the clearer covers. The coiler mechanism of both the card and the drawing frame may be equipped with specially shaped attachments for use with the high-frequency system. Small buttons of radio-active foil may be placed very close to the coiler tube on the underside of the coiler head.

Static in warping may be decreased by placing a bar across the warp, nearly touching it. The same method reduces static whenever there is a long run of fabric.

Application of a suitable finish is believed to be the best method for preventing static difficulties. However, no finish nor anti-static ingredient is effective in preventing static in all the various processes to which the fiber will be subjected. In almost all cases, the anti-static ingredient so modifies the finish that high backwinding tensions are incurred. A yarn

or staple which is completely static-free when prepared is often found susceptible to static after a long period of storage. A finish on the yarn is not the remedy for static in the fabric because no anti-static compound has yet been found which is fast to washing.

Many of the anti-static compounds fall into two main classes: cationic surface-active substances, and compounds which contain the polyethylene-glycol chain.

For continuous-filament nylon, the best method of application is a "spin" finish, applied immediately after extrusion. For prevention of static and subsequent operations, anti-static compounds may be incorporated in the coning oil.

Sufficient anti-static finish cannot be applied at spinning to filaments destined to become staple. A second application is necessary during the drawing operation. On many occasions, a troublesome staple has been rendered static-free by spraying with an anti-static finish.

Helindon Dyestuffs for Wool

By Dr. Hans Luttringhaus
General Dyestuff Corp.

A new line of Helindon dyestuffs by General Dyestuff Corp. was announced by Dr. Hans Luttringhaus in the delivery of his paper on Helindon dyestuffs for wool.

The Helindon dyestuffs were said to be especially suited for wool dyeing without decreasing the fiber elasticity or strength. The dyestuffs can be applied from weakly alkaline baths at 120 to 140° F. for about 30 min. The method is believed superior to using regular cotton-dyeing anthraquinones because of the high ratio of caustic required for the latter.

Five new types of Helindon dyestuffs were announced. The dyestuffs are in powder form. The five new Helindon dyestuffs round out a full line of 13 Helindon dyestuffs offered by the company. Most of these new products can be vatted together, and all can be dyed together.

The Helindon dyestuffs permit dyeing wool with vat colors under conditions which are less severe than those in an alkaline scouring bath. Yarn dyed with the dyestuffs, has showed an elongation 50% better than wool dyed with corresponding chrome runs. Fabric has been obtained which is 10% stronger in the filling and 25% stronger in the warp than material from chrome runs.

The Helindon dyestuffs have superior fastness to perspiration, fulling, washing, and the like. The dyestuffs can be applied on chlorinated wool as easily as on normal wool. It was said that chlorinated wool dyed with Helindons produced yarns of better tensile strength and higher elongation than identical yarn dyed with chrome colors. In one case, the Helindon-dyed yarn showed a tensile strength and elongation 15% better.

Modification of Fiber and Fabric Properties by Wrinkleproofing and Stabilizing Agents

By D. D. Gagliardi and A. C. Nuessle
Research Laboratories, Rohm and Haas Co.

By the use of urea-formaldehyde or other formaldehyde condensation products, it is possible to obtain a whole range of effects varying from soft, mellow, crease-resistant fabrics to crisp and resilient rayon and cotton fabrics. This range of effects is easily achieved by applying the various wrinkle-proofing and stabilizing compounds in the presence of other chemicals such as textile softeners or certain precondensed urea-formaldehyde resins.

Other properties of cotton and rayon fabrics which are changed by treatment with cellulose cross-linking reagents are the dyeing properties and the solubility in cellulose solvents. Urea-formaldehyde-treated fabrics become resistant to direct dyeing, but at the same time take on an affinity to acid wool dyes. This modification of dyeing properties has practical usefulness in producing cross-dyeing effects on fabrics.

The treatment of cotton and rayon fabrics with wrinkleproofing and stabilizing agents can greatly increase the range of usefulness of such fabrics. Thus, by a relatively simple and economical application of such agents, it is possible to convert ordinary fabrics into luxurious textiles which have the feel and appearance of expensive wool materials. More recently, by the development of an entirely new and different wrinkleproofing and stabilizing compound, it has been possible to treat rayon fabrics which are permanently stabilized against shrinkage and which can be washed by very severe washing procedures without causing any appreciable change in dimensions.

The Occurrence of Soluble Wool-Substance as a Result of the Sulphuric-Acid Carbonizing Process

By Jackson Bauer
Fred Whitaker Co.

In the course of the commercial sulphuric-acid carbonizing and neutralizing process, a loss of wool substance occurs which results in a loss of yield to the processor. The more liable groups in the protein are rendered soluble during the carbonizing process and thus become susceptible to removal during the rinsing and neutralizing processes.

A study has been made of this neutralizing loss on commercially carbonized but unneutralized wools. These wools were analyzed for their acid content, then neutralized in the laboratory, and the percentage loss in weight in excess of the acid content calculated. Results were adjusted for changes in ash and in the extractables.

Additional tests were run on wool-top samples which were carbonized and neutralized in the laboratory under controlled conditions. These samples, when carbonized, exhibited a gain in weight in proportion to their acid content, but an additional loss was found to occur during neutralizing.

The rinsing and neutralizing baths gave positive tests for protein. Most of the wool substance removed is water-soluble, and the quantity of this loss may be regarded as another means of measuring degree of damage incurred in a given carbonizing system.

The loss of wool substance is also shown to be a function of certain operating conditions.

Application of the Automatic Tristimulus Integrator to Textile-Mill Practice

By H. R. Davidson and I. H. Godlove
Central Research Laboratory, General Aniline & Film Corp.

Use of the GAF-Librascope automatic tristimulus integrator with the General Electric recording spectrophotometer permits tristimulus measurement and description of color with a precision equal to that of the eye. Because of its speed and precision, the tristimulus integrator has made practical the application of numerical colorimetry to a large number of textile-mill problems.

Calculations of tristimulus values, which are the amounts of the three primary lights composing a given shade, are rather laborious and time consuming when undertaken in the conventional manner. For this reason, the use of tristimulus values on any large scale has not previously been practical. Now that the automatic integrator is available, the time required is practically zero beyond that necessary for the operation of the spectrophotometer, and the way is opened for much more extensive use of this system of numerical colorimetry.

When a trained colorist is available for routine testing of production, his speed makes him superior to the instrument; but there are special fields of application in which instruments can be of real assistance to the colorist. The following applications are cited:

1. Color specification or classification: Any color can be specified by three numbers, and, if reproduction is required at some later date, the numbers are adequate.

2. Specification of shade tolerance: Assuming that the dyer and his customer have agreed on tolerance specifications, the instrument provides data comprising a permanent record for checking any production.

3. Levelness of shade: The integrator is sufficiently rapid and precise to use in striking an average from one spot in a fabric to another. The mean deviation from the average is an excellent measure of "levelness."

4. Dyer's brightness: A study of the nature of brightness has resulted in a method for specifying brightness of prints and comparative brightness of new research dye samples.

5. Fading and other fastness-test measurement: In a study of the uniformity of grading of the American, British, and German official light-fastness standards, the magnitude of color change was calculated from tristimulus values and expressed as numbers of "Fading units." Since measurement and integration require less than 3 min., the method appears economically feasible. The magnitude of fading is recorded in a given time instead of the time required for a given change.

The Dyeing of Orlon Acrylic Fiber and Its Use in Colored Textiles

By Dr. Robt. J. Thomas and Dr. Paul L. Meunier
Technical Laboratory E. I. du Pont de Nemours & Co., Inc.

At temperatures under 180° F., Orlon is unstained by all dyes. At 212° F.,

acetate and basic dyes produce only pastel shades, with relatively low exhaustion of dye. Thioindigoid and indigoid vat dyes at the boil yield medium depth of shade from baths containing a high concentration of potassium carbonate. Aqueous baths under pressure at temperatures in the range 275 to 293° F. promote increased exhaustion which is not of practical significance, but penetration is much improved. Sublimation of many acetate dyes interferes with the use of pressure steaming of padded dyeings. Improved receptivity of acetate dyes results from introduction of such organic assistants as cresol and aniline.

Basic dyes padded and steamed 30 min. at 20-psi. pressure permit dyeings of good strength and washing fastnes, but they exhibit the expected poor light fastness.

Penetration of vat dyes improved at dyeing temperatures in the range of 250 to 267° F.

The recently announced Thermosol process consists of padding on the dye, drying, and heating the padded fabric to temperatures in the range 420 to 450° F. for approximately 30 sec. Improved depth of shade results when using acetate colors.

In all methods of dyeing, final soaping at the boil is required to remove color adhering to the surface.

There are two points of particular interest regarding the fastness properties of dyed Orlon. First, the acetate dyes exhibit phenomenal washing fastness; and, second, the vat colors, notoriously poor in fastness to light in certain shades on nylon, exhibit very good light fastness on Orlon.

Pigment dyeing and printing are considered to be useful principally for light to medium shades.

Experience to date indicates that satisfactory prints may be obtained except for some tendency to crock.

The resistance of Orlon to dyeing by most chrome colors and the important metallized acid colors indicates usefulness in woolens and worsteds. Careful selection of dyes is necessary for pad-steam processing; most dyes are suitable for pad-jig or hosiery dyeing methods. For effect-yarn or resist uses, Orlon acrylic fiber appears far more versatile than either cellulose acetate or pure silk.

Evaluation of Wetting Agents

By Leonard Shapiro
Synthron, Inc.

A modification of the Draves test for evaluation of wetting agents employs gray-fabric tape instead of skeins. A 9-in. length of 1¼-in. binding tape is used. As the tape is lighter than the skein used in the Draves test, a proportionately lighter hook must be used.

The tape test method is said to have the following advantages over the skein method: (a) greater speed and ease of handling as the need for reeling off five-gram skeins is eliminated; (b) greater accuracy with a smaller number of duplicate tests; (c) less solution is removed by the tape than by a skein, and many more tests may be run on the same liquor without loss in volume; (d) use of woven material makes interpretation simpler and allows direct correlation on the same fabric with surface-drop tests employing 1-in. squares or circles, rewetting tests, etc.

Calculations show that at equilibrium, at 5-g. skein with a 3-g. hook still contains nearly 5 cc. of air. Thus the Draves test measures the time for a definite fraction of the skein to be wet out. The order of effectiveness of wetting agents may be entirely different at the point of complete wetting out.

By extrapolation of sinking times for a series of hook weights, the time for complete wetting out is calculated and compared with partial wetting-out times.

NEW EQUIPMENT, SUPPLIES, DYES, AND CHEMICALS

Shown in the Exhibit Section, AATCC Convention

▶ Dye nets of Orlon for full-fashioned and other nylon hosiery were shown by Textile Bag and Specialties Co., Chester, Pa. Advantages claimed for the bags are that they will not absorb dye, they will not absorb resin finish, they will far outlast cotton bags, and they will withstand chlorine bleach.

▶ A new series of synthetic-resin-type finishes, under the brand name Resonet, has been developed by E. F. Houghton & Co., 303 W. Lehigh Ave., Philadelphia 33, Pa.

Resonets are based on thermoplastic resins. While such resins are not actually converted into an insoluble form by curing, drying lays them down in such a form that they will not redisperse in water. Consequently, they are much more durable than the starch-type finish, which can be removed in a single washing. Fabric treated with Resonet is said to continue to hold its hand after many washings or dry cleanings.

Resonets are compatible with and are often used with starch finishes to impart permanent flexibility, and a fuller, rounder hand than produced with starch alone or with starch and softener. The resins are also compatible with all conventional softeners, except the cation-active types.

Use of the Resonet finishes is said to improve the hand of fabric, to brighten colors, to reduce lint on cotton, to produce anti-slip finishes on filament fabrics, and to produce excellent results in backfilling. Durability, ease of application, rapid and uniform penetration, and economy of use are also claimed for the product.

▶ An experimental, water-soluble, resin size, Acrysol A-1, for raw filament nylon and spun-nylon yarns for weaving and knitting has been developed by Textile Chemicals Dept., Rohm & Haas Co., Washington Square, Philadelphia 5, Pa.

The experimental raw-nylon size is said to offer the following advantages: excellent adhesion to raw nylon, far less shedding and flaking on the loom, improved loom efficiency, ease of handling (soluble in tap water in all proportions), ready application on stainless-steel slashing equipment, ease of removal from gray goods, and elimination of additives. No plasticizer is normally required with the size. A normal scour in a synthetic detergent with soda ash is said to remove the experimental size from the goods for subsequent dyeing and finishing operations.

Experimental Acrysol A-1 is not in commercial production, but limited quantities are available for practical plant evaluation. Commercial production is anticipated shortly.

▶ ***COMPLETELY AUTOMATIC CONTROLS have been added to the combination sample package and raw-stock dyeing machine made by Venango Engineering Co., G and Lycoming St., Philadelphia 24, Pa. The new instrument panel contains a recording thermometer, time clock with an alarm to warn the operator that his attention is required, flow-direction indicators, a pressure gage for determining exact pressure in the dye tank, and an automatic timer to give the desired flow interval between the in and out flow for any period.***

▶ Rhonite R-1, a new chemical developed specifically to impart stabilization and crush-resistance to cellulosic fabrics has been developed by Textile Chemicals Department, Rohm & Haas Co., Washington Square, Philadelphia 5, Pa. The new product is said to have such excellent durability that fabrics treated with it are completely washable. Rhonite R-1 is applied in the same manner as conventional urea-formaldehyde and melamine-formaldehyde resins, and requires no more control than these chemicals.

The new chemical is supplied as a clear-white to pale-yellow liquid which is stable indefinitely in storage at room temperature. The working life of baths containing Rhonite R-1 and catalyst is said to be outstanding. The new product is readily soluble in either hot or cold water in all proportions, and finishing baths may be prepared simply by diluting Rhonite R-1 with tap water and stirring. The product is non-volatile and may be applied and controlled with ease. Rho-

(Continued on page 226)

Berkshire HOSIERY-DYEING Methods Heard by AATCC

HIGHLIGHTS: *Single-bath method successfully used on multifilament hosiery—Use of sleeves for dyeing 15-den. hosiery helps reduce snags—Experiments determine leveling action of various acetate dye baths —Best dyeing done in a retarding dyeing bath—Much work remains to be done in dyeing of 20-den. monofilament hosiery.*

By HAROLD L. DeTURCK, *Superintendent of Dyeing, Berkshire Knitting Mills, Reading, Pa.*

▶ **The author delivered the following paper at the recent convention of the American Association of Textile Chemists and Colorists at Atlantic City, N. J. The paper discusses techniques of and experiments on dyeing and finishing of multifilament, 15-den. monofilament, and 20-den. monofilament hosiery by Berkshire Knitting Mills, Reading, Pa. The author's discussion of 15- and 20-den. hosiery covers the following topics: scouring, dyeing assistants, dyestuffs (including acetate, Nydyes, direct colors, chrome colors, and neutral acid dyestuffs) and the Dunn method.—Editor.**

MULTIFILAMENT STOCKINGS, regardless of the denier, have relatively few processing problems. Most 30-den. multifilament stockings have either 60- or 50-den. multifilament welts and 40-den. reinforcements. The 50-den. multifilament yarn, type 200, dyes with a slight variable-dyeing index within one merge; but the 50-den. multifilament regenerated yarn has a pronounced variable-dyeing index and produces light and dark shades within one dye bath. Varying methods of scouring or selection of dyes will not alter this condition which is quite noticeable when dyestuffs such as Nydyes or direct dyes are used exclusively.

Preparation of the stockings for dyeing presents more of a problem with the commission dyer than it does with a mill that enjoys the full cooperation of its throwster. At Berkshire, the problem is simplified because the mill can determine in the chemical laboratory what percentage of sizing and what amount and kinds of oil should be used during the throwing and coning operations. Thus the mill is in a position to recommend to the throwster the best procedure for the respective type of yarn used in the manufacture of the stocking.

Two methods can be used for scouring nylon hosiery, namely the single- and double-bath methods. In the single-bath method, scouring and dyeing are done in the same bath. If a mill has excellent control over throwing and sizing, the single bath is the ideal method, for it is economical, effecting a saving in materials, labor, and time. The double bath, as the name implies, removes the sizing and impurities from the hosiery prior to the actual dyeing operation. The procedure must be used with extremely soiled hosiery, containing an excess of graphite, etc., that became partially fixed to the nylon during preboarding.

In dyeing multifilament hosiery, Berkshire has adopted the single-bath method and has found the following formula quite suitable:

4 to 6% low-titer soap, such as Oleate or Vertex flakes
2 to 4% sulphated fatty alcohol, such as DuPonol D
2 to 3% trisodium phosphate
Maximum dyeing temperature: 180° F.

Regardless of the source of supply, the acetate-type dispersed dyestuffs are still the best and easiest to manage for nylon hosiery. In dyeing multifilament nylons, temperature and time will remedy any uneven dyeing.

15-DEN. MONOFILAMENT. The dyeing of stockings made from 15-den. monofilament main with either 30-den., 40-den., or 50-den. multifilament welt yarn will de discussed under the following headings:

1. Packing
2. Scouring
3. Dyeing assistants
4. Dyestuffs
   a. acetate
   b. Nydyes
   c. direct colors

OPINIONS ON DUNN METHOD

Berkshire has had very little experience using the Dunn method, but opinions of other dyers using the method might be listed as following, according to the author:

1. **Some claim a better union is obtained between welt and boot by using the Dunn method.**
2. **In some instances, there is considerable subliming of the dyestuffs at the higher temperature and pressure.**
3. **Some of the dyestuffs are not ground fine enough and then cause blue spots during the preboarding operation.**

DYEING PROCEDURE WITH NYDYES

The dyeing procedure with Nydyes at Berkshire goes something like this: Following the scouring, the goods are run in a bath containing the dyeing assistants for a period of 15 min. at 130° F. This method allows ample time for the assistants to become part of the stocking. Add the Nydyes, and run 5 min. at 130° F. Raise temperature from 130 to 160° F. in 15 min., and run an additional 60 min. at 160° F. before sampling. Excellent results have been obtained using a sulphated fatty alcohol and a non-ionic wetting agent in the dye bath. In other words, Berkshire is a firm believer in doing the dyeing in a retarding dye bath.

d. chrome colors
e. neutral acid dyestuffs

5. Dunn method

Most of the goods prepared for the dyehouse are packed in the preboarding department. Berkshire has experimented with all types of packing materials, such as plain muslin net, cotton-mesh bag lined with muslin, cotton and spun-viscose fabric sleeves (or "sausages," as some people call them), and lastly, nylon bags. The amounts in a container were varied from two to four dozen. Finally, two dozen was established as standard.

The stockings in the nets were packed in several ways. In some instances, each individual stocking was dropped into a bag. The bag was then sealed in the conventional way, while other batches were double and triple folded in amounts of 6, 12, and 18 stockings and carefully placed in nets. The goods packed in sleeves or "sausages" were prepared by using a special trough arrangement developed by the mill. It appears that the method of packing goods in sleeves or "sausages" is ideal in helping to reduce pullers or snags and facilitates the loading of a dye machine, in addition to being a time saver for the boarding department.

Before dyeing 15-den. monofilament stockings, it is imperative to give them an efficient scouring. The 15-den. monofilament usually contains no PM-90 sizing and oils, but the multifilament yarns, depending on the throwster's process, varies from 7.00% to 9.00%. Berkshire is partial to soap as the main scouring ingredient and emulsifying agent, but in addition uses caustic soda, soda ash, trisodium phosphate, or tetra-sodium pyrophosphate. Using 6 to 8% soap and 2 to 3% alkali will give a pH of approximately 11 and will make an ideal bath for scouring.

The unemulsifiable types of knitting oils remaining in goods after preboarding are difficult to remove when stockings are packed in sleeves or "sausages," because of the compactness within the sleeves. Unless a proper scouring bath is used, trouble may be encountered later through the releasing of free oil on the inserts or tissues used in the final boxing operation.

Berkshire has not been successful with a one-bath method, namely scouring and dyeing in one operation, for 15-den. monofilament hosiery.

Some of the types of dyestuffs to be discussed were and are being used in production, while others were on an experimental basis. The acetate-type dyestuffs, without doubt, appear to be the most suitable for dyeing.

ACETATE DYES. In using acetate dyes for dyeing 15-den. monofilament hosiery, mills are faced with the following elements: level dyeing, temperature control, length of dyeing cycle, good union, and finally good shade matches.

Consideration of the technique of level dyeing must also include the problem of dispersion and wetting. The auxiliaries used today are mostly of the fatty type. First came the sulphonated oils, followed by the alcohol sulphates such as DuPonol D. Later came alkyl-aryl sulphonates, the so-called Nacconols; alkyl-sulphonates, DuPont's Merpol; sulphated and sulphonated amides, Igepon T. In addition to the above types, there are the sulphate and sulphonated esters, sulphonated and sulphated amines, alkyl-aryl polyether (Triton, etc.).

In order to study the leveling action of various dyebaths by making comparative tests with alkalis, Berkshire used the simple method of placing one dyed and one undyed stocking for 30 min. at 180° F. in the following bath:

a. 2.3 g. trisodium phospate, 700 ml. water, pH 10
b. 2.3 g. sodium pyrophosphate tetra, 700 ml. water, pH 9
c. 2.3 g. sodium phospate tetra, or Quadrafos, 700 ml. water, pH 7
d. 2.3 g. sodium carbonate, 700 ml. water, pH 11
e. 2.3 g. ammonium hydroxide, 700 ml. water, pH 9
f. 700 ml. water

The stockings from *b*, *e*, and *f*, were similar; that is, sodium-tetraphosphate and ammonium-hydroxide solutions had the same effect as plain water. The dyed stockings kept their brightness; and the undyed stockings were of a weak, dead-yellow color.

On stockings from *a* and *d*, trisodium-phosphate and sodium carbonate solutions had the same effect. The dyed stockings showed a drastic change and turned red, while the undyed stockings were light beige.

The stockings from *c* treated with the Quadrafos solutions were different from all the other sets. The undyed stocking had a light beige color similar to the one of trisodium bath, and the dyed stocking kept its original brightness. It was even closer to the original dyeing than the stocking treated in water only.

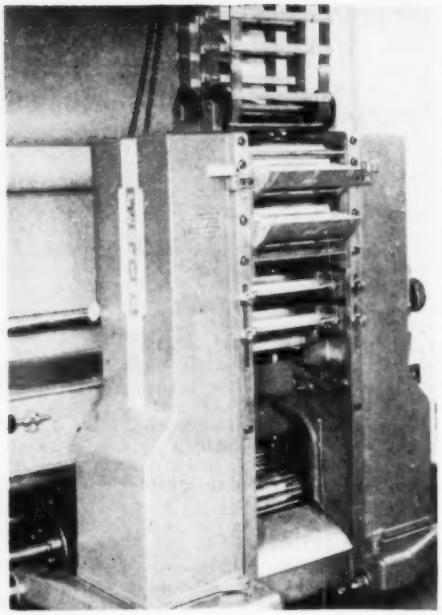
As far back as 1946, Berkshire was faced with the trouble of obtaining the same depth of shade between the welt of multifilament yarn and the boot of 15-den. monofilament, type 400, nylon. At that time, DuPont recommended as dyestuffs Acetamine Orange GR Conc. 175% and Celanthrene Brilliant Blue FFS Conc. 200%; the goods to be dyed in a DuPonol, soap, trisodium-phosphate bath between 180 and 190° F.

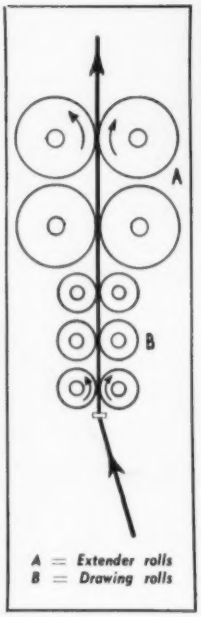
Since that time, a dozen of the one and a half a dozen of the other dyeing methods and procedures have been tried.

To avoid the dyeing troubles at that time, Berkshire concentrated on making a stocking with all 15-den. construction. This naturally eliminated dyeing difficulties.

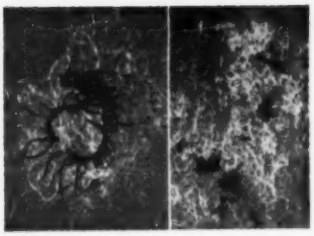
TANNIC-ACID PRETREATMENT. It was during this period that Berkshire did experimental work, with DuPont assistance, using tannic acid as a pretreatment. The hosiery was scoured by the conventional method and rinsed thoroughly. To the bath, at 90 to 100° F., the following ingredients were added:

(*Continued on page 208*)

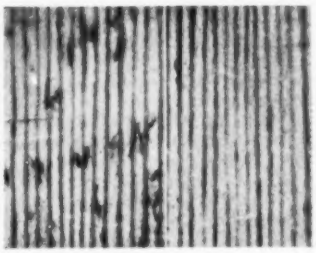




CARDED WEB FROM DOFFER of the breaker card leaves the press apron on the center intermediate feed and enters bottom of fiber conditioner. Three pairs of special drawing rolls reduce the wool to a thin web by high-velocity slip-drawing or drafting. The first pair of extender rolls contact the web and apply tension to the exposed foreign matter. Further subdividing and breaking up occur as the second pair of extender rolls contact the fiber. After leaving the conditioner, the web is delivered well opened to the finisher card.



BURRY CARDED WOOL samples, before and after passing through the fiber conditioner, show the effect of bending and tension applied to a wool burr.



STRANDS OF BURRY WOOL taken from tape condensers of two card sets can be compared. Strands on left were not conditioned; only a small amount of foreign matter remains in strands on right which have been through fiber conditioner.

Burr and Trash Removal Improves WOOL QUALITY

HIGHLIGHTS: *Homestead Woolen Mills gets improved-quality product through use of fiber conditioner—Tension and bending remove burrs and other foreign matter—Simple, effective action does no damage to fibers—Value of burry wools increased—Cheaper wool mixtures can be used in producing quality products—No additional labor cost involved.*

By E. H. HELLIWELL
New England Editor, TEXTILE WORLD

A PERKINS FIBER CONDITIONER for removing foreign matter and burrs from wool card web has been delivering an improved-quality product for many months at Homestead Woolen Mills, West Swanzey, N. H. A comparative test made recently at that mill was witnessed by the writer.

Two cards were running on the same mixture of garnetted stock and new wool. Settings and operating conditions were the same, except that one card had a fiber conditioner installed between the breaker and finisher cards. The other card in the test took sliver direct from the doffer of the breaker card to the feed of the finisher card.

The stock fed into the Bramwell feeder on each card was the same. Broken burrs, hard ends, and trash removed by the fiber conditioner were saved for further examination. Specimens of finisher-card sliver from each unit were saved for comparison and classification of appearance. The product of each finisher card was kept separate, run through regular processes, spun into yarn, and then woven into cloth. A comparison was made by the mill between the specimens of cloth for appearance and quality.

The sliver from the breaker card, after passing through the fiber conditioner, was free from burrs. A small number of short broken threads were present, but were so conditioned as to be easily removed by the finisher card. A large quantity of trash was removed from the trays on the fiber conditioner; included were small particles of burrs, fine dust, broken yarn, and hard ends. Sliver from the regular breaker card, without the condi-

(Continued on page 222)

Z. BOYCE MANGRUM, superintendent, Sibley Div., Graniteville Co., Augusta, led the discussion on slashing.

OFFICERS ELECTED at the fall meeting of the Textile Operating Executives of Ga. were:

John S. Turner, agent, Bibb Mfg. Co., Columbus, general chairman, succeeding **J. C. Edwards, Jr.,** superintendent, Exposition Cotton Mills, Atlanta;

H. M. Jackson, assistant superintendent, Fulton Bag & Cotton Mills, Atlanta, vice-general chairman, succeeding Mr. Turner;

Robert W. Philip, vice-president and director of research, Callaway Mills Co., LaGrange, reelected secretary-treasurer.

Members elected to the executive committee for two-year terms were:

James A. Byars, Riegel Textile Corp., Trion; **Turner E. Scott,** Martha Mills, Thomaston; and **T. M. Hampton,** Callaway Mills Co., LaGrange.

Retiring committeemen were: **H. M. Jackson, B. W. Whorton,** vice-president, Dixie Mills, Inc., LaGrange; and **E. F. Robbins,** manager, Griffin Mill, Thomaston Mills, Griffin.

SLASHING Practices Discussed by Georgia Men

HIGHLIGHTS: *Size viscometers used to check on size formula and overnight breakdown—Wool squeeze-roll covers still favored—Hot-air slasher dries 64 yd. of yarn per min. at a steam cost of 1.47¢ per min.—Steam-cylinder slasher dries 40 yd. per min. at a steam cost of 1.0¢ per min.*

THE TEXTILE OPERATING EXECUTIVES OF GA. held its fall meeting in Atlanta recently. Questions on slashing and weaving practices were discussed.

Prior to the meeting, the questions to be discussed were submitted by mail to all Georgia mills and written answers were received from 20 mills and mill groups, operating 1,082,466 spindles and 21,672 looms.

The questions and written answers on slashing practices are reported in condensed form here. A similar report on the weaving questions will be found elsewhere in this issue.

Question: What has been your experience with viscometers for slasher size solutions?

Mill C listed the purposes of using a size viscometer as: (1) to control the percent of size pick-up by the yarn by controlling size viscosity, (2) to insure the application of an even coat of size, (3) to check on the correctness of the size formula, and (4) to serve as a guide in regulating temperature to secure proper size penetration.

The result is that better-sized warps are sent to the weave room.

Mill I reported that a viscometer reading of 30 gives the best running warps for its weave room. Advantages reported by this mill for the use of a viscometer were: (1) it gives a constant check on the viscosity of the size, (2) it indicates any breakdown of size stored overnight, and (3) it gives an easy check of different size formulas.

Agitator speeds to minimize breaking down of starch fluidity at this mill were given as 36 rpm. in storage kettles and 53 rpm. in cooking kettles.

Mill O runs its agitators at 40 rpm. in both kettles, and Mill T runs them at 15 to 20 rpm.

SQUEEZE-ROLL COVERS. Question: What type of squeeze-roll cover do you prefer?

Nineteen mills gave twenty-one answers because some of them specified more than one type of cover in use. Wool blankets are the most commonly used type of cover. Seventeen of the 21 mill answers stated that wool blankets were used on front squeeze rolls. The other four specified wound-yarn covers.

Back-roll covers showed a little more variation. Wool blankets were mentioned 13 times, synthetic covers six times, and clearer cloth and wound yarn once each.

Mill I reported that clearer-cloth covers for back squeeze rolls last ten to twelve times as long as wool-blanket covers.

Methods used by some of the mills for covering rolls with yarn and blanket are given in the accompanying table at the top of page 118.

HOT-AIR SLASHERS. Question: What is your experience with hot-air slashers?

Only two mills answered this question.

Mill Q reported that it is using a four-section Saco-Lowell slasher with a Minneapolis-Honeywell size-temperature control. Warps range from 2,000 to 6,000 ends of 1/15 to 2/40 worsted yarn for 64-in. woven width. Drying capacity of the slasher for these warps ranges up to 40 yd. per min.

Mill A, which has an Uxbridge hot-air slasher, reported the following observations:

1. In comparison with a conventional three-cylinder steam slasher, the Uxbridge slasher will increase drying speed and production about 60%. The actual speeds are 40 yd. per min. against 64 yd. per min.

2. Actual drying cost per pound of yarn is about the same with the two

Viscosity and Size Pick-Up

The effect of viscosity on size pick-up by warp yarn is indicated in desize tests run by Mill G. Viscosity readings are by a Norcross viscometer.

Viscosity	% Size Added
40	11.7
45	11.6
50	11.4
55	12.4
60	12.6
65	12.6
70	12.6
75	13.8
80	13.9

Slasher Squeeze-Roll Covers

How yarn covers are applied:

Mill B: Wind on six layers of 12-ply 7s cotton yarn for a base. Then wind on about 20 layers composed of two ends of 3-ply 10s wool and one end of 2-ply 7s cotton yarn. Add two layers daily of these wool and cotton yarns.

Mill G: Wind on four rounds of six ends of No. 10 brown jute, three rounds of eight ends of 12s cotton yarn, one round of two ends of 3-ply 10½s white worsted yarn, and one round of two ends of 12s cotton. Add daily one round with one end of the 3-ply 10½s worsted and one round with two ends of the 12s cotton.

Mill M: Cover the roll with 16 layers of two ends of 2-ply 10s wool and two ends of 12s cotton. Add two layers every 56 hr.

How wool blankets are applied:

Mill D: Paste one round of 20x20 cotton cloth to the squeeze roll with white lead. On the back roll, wind on 6 yd. of blanket cloth. On the front roll, wind on 4 yd. of new cloth and then the 4-yd. piece that had been running next to the roll. Discard the old top 4-yd. piece.

Mill E: Clean the roll and paint it with two coats of white lead. Apply 5 yd. of good burlap, 5 yd. of heavy sheeting, and two 4-yd. pieces of wool blanket. Lap ends of pieces about ½ yd.

Mill F: For warps up to 30s yarn, wind on 2½ yd. of No. 10 Brandon duck and then two 3-yd. pieces of 18-oz. wool blanket. For warps finer than 30s, instead of two 3-yd. pieces, use one 6-yd. piece.

Mill O: Paint roll with three coats of white lead. Wind on three layers of 7½-oz. jute burlap, sticking each layer with white lead, and let the ends lap 12 in. Apply two rounds of 9.55-oz. cotton cloth, sticking it with lead and lapping the ends 12 in. Apply 5 yd. of 14-oz. wool blanket; stick it smoothly with size.

types of slashers, since the Uxbridge slasher uses 88¢ worth of steam per hr. and the three-cylinder slasher uses 60¢ worth.

3. Stretch, single-end breaking strength, and elongation are about the same with the two slashers.

4. Slightly more size is added by the Uxbridge slasher.

5. Loom stops on account of warp are 7% less with the hot-air slasher.

6. The hot-air slasher gives a rounder yarn with fewer protruding fibers.

7. There is less shedding under the front end of the slasher but no noticeable difference in weave-room shedding.

8. Less heat is given off in the room because of the insulation of the hot-air slasher.

STEAM CONTROLS. Question: Do you have automatic steam control on your slasher cylinders?

Nine mills reported that they have automatic steam controls. Seven of them have a control for a whole slasher, one has a control for two cylinders and another control for the third cylinder, and one has a control for each cylinder. Steam pressure varied from 12 lb. for the heavier sets to 2 lb. for the lighter sets. All nine mills were of the opinion that steam controls help eliminate sticking to the cylinder and improve warp running conditions in the weave room.

Question: Is it advisable to reduce the steam on cylinders when it is necessary to run the slasher at slow speed for several minutes? What is your steam cost per pound of yarn dried?

Of 15 mills that gave answers to these questions, twelve think that it is advisable to reduce the amount of cylinder steam for slow running and three think that it is not necessary.

Five mills gave the cost of steam required to dry a pound of yarn. These figures were 0.10¢, 0.00226¢, 0.001126¢, 0.10¢, and 0.15¢.

WARP SPLITTING. Question: What is the best method of leasing or splitting the warp sheet?

Fourteen mills stated that they use split rods on the slasher fronts, while four mills reported that they use wet splitting between the size box and first cylinder.

Mill A reported: "At the front of the slasher we split our yarn in the conventional manner by inserting a split rod between the yarns for every separation made by the lease strings applied at the section beams at the back.

"In the past we used pin leases at the warper to give us another 50% separation at the slasher by the use of two split rods for each section beam. We found that this practice made unnecessary waste, and we discontinued it."

Mill C reported: "We use wet splitting at the back of the slasher and also lease rods at the front."

Mill F reported: "We insert lease strings at each section beam, run the strings to the front of the slasher, and insert lease rods. On heavy print-cloth styles, a wet split is accomplished between the size box and cylinder by a revolving brass rod driven by a pulley on the bottom squeeze roll."

RUN-OUTS. Question: How do you control slasher run-outs, back and front? State your percentage of back and front waste.

General practice among the mills that answered this question is to take care at the warpers to put approximately the same length of warp on each beam. Most mills do not try to synchronize the back and front slasher run-outs.

If the difference in beam yardages exceeds 1.0% at one mill, beams with nearly the same yardages are grouped in the slasher creel. Another mill stated that it runs a full slasher set on one warper so that the beams will be measured by the same counter.

Of five mills that specified yardage variation on their warper beams, three placed the variation at 0.1%, one at 0.2%, and one at 0.8%.

Soft waste ranged from 0.17% to 0.85%, with the average for seven mills being 0.38%. Hard waste ranged from 0.12% to 0.66%, with an average of 0.326%.

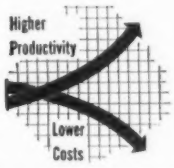
Question: Do you prefer a positively driven creel? What should be the differential between the yarn speed on the section beams and on the loom beam?

Four mills indicated a preference for positively driven slasher creels. Two of them specified that the loom beam should be driven at a speed 1.0% greater than the section beams, one specified 2.0%, and one did not state a speed differential.

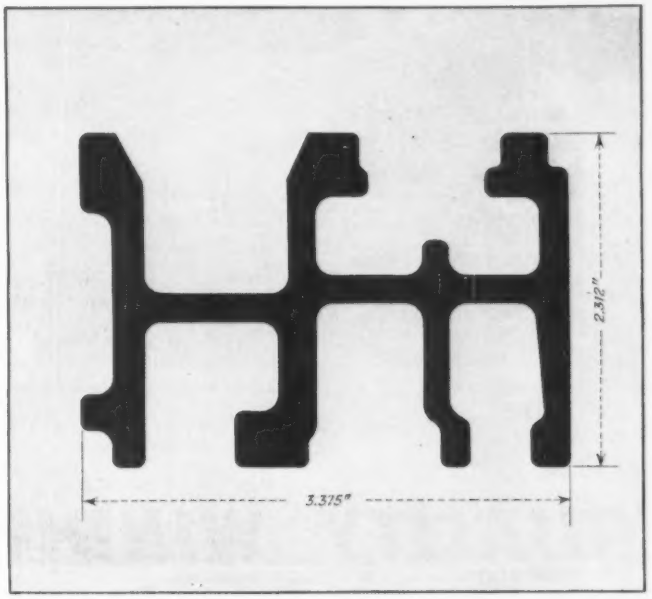
Mill E does not like a positive drive for its rayon warps. It reported: "We have one positive feed in dresser roll behind the size box. The adjustable speed of this roll permits yarn to be fed to the size box under low tension. It reduces our stretch on rayon from 4½% to 2%.

Pepperell Experiments With ALUMINUM-ALLOY LAYS

HIGHLIGHTS: *Aluminum and wooden lays compared—Life of shuttle considerably increased by light-metal lays—Looms run faster with fewer shut-downs—Experiments still incomplete.*



By EARLE MAULDIN
Southern Editor, TEXTILE WORLD



ALUMINUM-ALLOY LAYS *with the above cross-section are being used in experiments at Pepperell Mfg. Co. Early results indicate a large increase in shuttle life.*

SEVERAL INTERESTING ADVANTAGES of aluminum-alloy lays for looms are evident from experiments being carried out at Pepperell Mfg. Co., Lindale, Ga. These early advantages indicated by the experiments are: increased shuttle life, less time spent on adjustments, less down-time, greater speed with consequent higher production, fewer supplies, and a higher quality product.

To carry out the tests, the mill installed 96 X-2 Model, 40-in., double-fork Draper looms equipped with aluminum-alloy lays in the No. 4 weave room. Accurate records have been kept of the loom performance for the purpose of comparing with conventionally-equipped machines. In the same room, there are 96 E-Model looms equipped with the conventional wooden lays. These E-Model looms operate at the rate of 177 ppm.; the X-2 looms with the aluminum-alloy lays are running 186 and 197 ppm.

The condition of the lay is believed to affect the life of the shuttle considerably. Since the cost of the shuttle is a large part of the total operating cost of a loom, it was felt that considerable savings could be effected by installing lays that could be kept in perfect alignment, accurate adjustment, and proper condition with a minimum of loom fixing.

Records kept of the operation of these looms over a period of one year show greatly increased shuttle life for the X-2 looms equipped with the aluminum-alloy lays. The average shuttle life on the Model E looms with wooden lays was less than 20,000,000 picks, whereas the life on the X-2 looms is running about 80,000,000 picks. For one short period of three months, the difference was even more pronounced; the figures were 25,000,000 and 250,000,000 picks respectively.

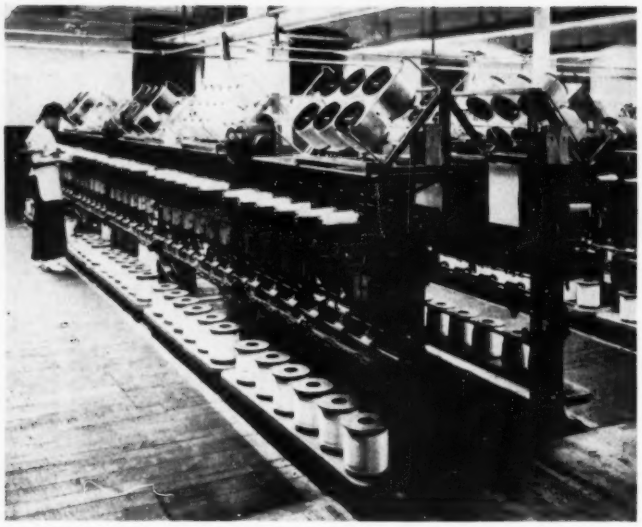
The mill does not consider the experiment complete. Records are being kept, and performance is being watched while the mill continues to subject the lays to severe tests. There has been some breakage of lay ends, due, it is thought, to faulty design or specifications. Steps are being taken to correct these faults.

STABILITY. The dimensional stability of the aluminum lay is said to be one of its greatest advantages. Holes drilled in the lays can easily be held to correct size and position with standard machining practices. The lay has the strength to withstand crushing; and when bolts are once set and tightened, they remain that way.

For these aluminum-alloy lays, the Aluminum Co. of America furnished extrusion 14F-T64. The extrusion process provided the means of producing a section true to design. The section was so designed that each area of metal does a particular job and is placed for the greatest engineering efficiency. The 14F aluminum alloy is a high-strength, specially heat-treated material that gives a typical tensile strength of 70,000 psi. The heat treatment is designed to provide dimensional stability during and after machining.

In order to secure the best available design, one that would produce more and cost less in operating expense, close cooperation has been obtained between the machine builder, Draper Corp.; the designer; the supplier of the material; and the mill as purchaser.

The Aluminum Co. of America cooperated closely in giving advice on the commodity, alloy, and specifications necessary to produce the high-strength section that was used. Proper techniques of machining and fabrication of the new material were also available from this source.



PRECISION WINDER (Universal #50) does a good job, for example, producing nylon cones for knitting purposes.

Factors That Influence Tension on Continuous-Filament Coning

1. Applied tension
2. Position of supply
3. Diameter and length of balloon
4. Excessive pressure
5. Too many or too few wraps on supply package
6. Too great an angle from supply to take-up spindle
7. Type of package used

Good Densities for Finished Packages Off Precision Winder

Low-twist viscose	60 to 65
Acetate	50 to 55
Viscose crepe	45 to 50
Low-twist multi-filament nylon	50 to 60
Nylon multi-filament crepe	45 to 50
Nylon monofilament	50 to 55

QUALITY WINDING
Demands Precision Control

HIGHLIGHTS: *Density of finished package on precision winder must be definitely controlled—Number of winds influences delivery—Various tensions used—Filling winder for continuous-filament yarns also requires tension controls that vary depending on the type of yarn being run.*

By KARL H. INDERFURTH
Promotion Manager, Universal Winding Co.

WHEN CONING FILAMENT YARNS on the precision winder, it is essential to quality work that the density of the finished package be controlled within very definite limits. Since density is influenced mainly by tension, the amount of tension which can safely be placed on the yarn must be carefully controlled, and this amount varies with the type of yarn being processed.

The following basic figures for the winding operation are noted in maximum grams-per-denier tension: viscose, 0.25; and acetate, 0.20. While these figures are given in maximum grams per denier, good winding practice dictates that considerably less tension should be employed. In the case of nylon, the very minimum of tension must be employed.

WINDS. Since the number of winds placed onto the package being produced greatly influences delivery from a self-supporting package, careful consideration must be given to this detail of winding. "Winds" is defined as "the number of revolutions the spindle or package makes while the thread guide is making one stroke." Too many winds will cause the package to bulge, and will result in end breakage and excessive tension. Too few winds will result in non-uniformity of delivery and tension in the next operation.

When coning low-twist viscose or acetate, the standard number of winds is 2¾ for straight-base cones. However, 2¼ winds is considered optional. A slightly better delivery at high speeds is accomplished through the use of 2¾ winds.

Fine-denier acetates frequently require a reduction in spindle speed to reduce the frictional tension and to reduce the wind resistance created by the balloon.

Because of the desirability of winding with a low tension and of still maintaining good package formation when winding viscose crepes, the tapered-end attachment is used. Winds are either 2¾ or 3¼. The package weight is up to 2 lb., and the diameter of the cone is 5¼ in.; and if tubes are employed, 5¾ in.

When winding nylon yarn, the standard wind is 3¼ for cones with a 3° 30′ taper. However, occasionally throwsters do use a 2¾ wind. While a great deal of raw 15-den. monofilament yarn is processed on 3° 30′

Abstracted for easy reading from a paper presented before the American Association of Textile Technologists in New York.

pineapple cones and 1⅞-in. tubing, Universal recently developed a 3° 51′ cone which has been favorably received by throwsters and knitters.

SUPPLY PACKAGES. Since ultimate good winding qualities are largely predicated on the type of package which is used as the supply, the operations prior to coning must be very carefully controlled.

Soft supply bobbins cause unnecessary end breakage, which results in loss of efficiency and requires too many knots to be tied. Improperly traversed supply bobbins result in underwinds and stitches, which influence end breakage unduly, and may cause shiners and streaks in the finished fabric. Too many or too few wraps on the supply bobbin cause a fluctuation in tension upon delivery to the winder.

Nylon yarns which have been oversized or insufficiently lagged to allow complete drying of the size "pluck" during the winding process because of the adhesiveness of the size. Results are broken filaments, end breakage, poor take-up-package formation, and streaks in the finished fabric.

Bulging packages are caused by the incorrect number of winds and improper setting of the tension control, which may make the outside of the package harder than the inside and thus destroy the supporting feature of the package. Incorrect relation of tension to pressure can also cause bulging of packages.

When knots are tied in the winding operation, they should be tied on the apex of the cone, and tails should be clipped. Furthermore, it is essential that the proper type of knot be tied. The weaver's knot has proved satisfactory. On fine-denier nylon, it may be advisable to employ a double weaver's knot to insure against slippage.

To cut down on broken filaments, the winder must be frequently checked over to see that there are no nicks, cuts, or grooves on the various parts through which the yarn passes from supply to take-up package.

RECOMMENDED TENSIONS. The types of tension Universal advocates for precision winding are the standard anti-wear, the wide anti-wear, and the Magnetension.

The anti-wear tension operates on the washboard or gate-type principle and develops reasonably uniform tension. However, when a pluck is encountered, the tension is multiplied over its original value because of the angularity of the thread path in the tension and the severity of the pluck. Furthermore, should the plucking action be severe, tension control is momentarily lost. The anti-wear tension has in its favor the fact that when normally low tensions are employed, multiplying characteristics are reduced.

The Magnetension is a relatively new development and operates on the pinch-type principle, employing the use of a magnet which applies force to a very flexible member. Tension is applied to the yarn by a loosely mounted, magnetically attracted tension leaf. When this pinch-type tension encounters a pluck, the result of the increased tension is only additive; consequently, the over-all resulting tension is more uniform and constant. Oscillographs show that when a pluck is encountered, tension variation is considerably less. No repeats in the graph are recorded for a single pluck as happens when a pluck is encountered on a gate-type tension. Further tension control is not lost. The Magnetension has limitations at the moment, for if any particles or pigments become lodged between the loose tension leaf and the wear plate, tension control is lost. Sized yarn also clogs this tension.

The Magnetension has been used satisfactorily for certain types of acetate and viscose yarns and high-twist crepes.

FILLING WINDING. The winding of synthetic yarns for filling on filling winders can be another pitfall when producing quality weaving yarns. To insure quality, filling bobbins must be uniform from spindle to spindle in density, number of winds, bunch, and build. Synthetic yarn can be very easily damaged in quilling; one of the main causes is quills that are wound too hard in the desire to prevent sloughing off. Such quills will deliver with excessive and uneven shuttle tensions and will in the end cause variations in the finished fabric.

The following basic figures for the quilling operation are noted in maximum grams-per-denier tension: viscose, 0.40; and acetate, 0.30.

Principle of Winding Theory

▶ Use the greatest number of winds that will produce a self-supporting package. This theory has not changed since the inception of winding. All winding machines operating today function on this basic principle.

Again, with nylon, the very minimum amount of tension should be applied. A practical rule to follow is that all synthetic yarn should be quilled with the minimum tension possible, consistent with good weaving.

FILLING-WIND TENSIONS. For 0- to 2½-turns acetate, the regular finger tension is a satisfactory type of tension because it is simple and holds the filaments together without spreading during processing.

For acetate yarns having 3 to 30 turns, and viscose up to 25 turns, the disk-quill tension is satisfactory since it is a modified type of pinch tension and consists of horizontal disks between which the thread passes. This type of tension reduces any tendency toward a snubbing action and will not give complete release of tension at any one time. Furthermore, frictional contact with the yarn is obtained from a source that rotates rather than remains stationary.

For viscose yarns from 25 to 60 turns, the crepe tension may be employed. When using the crepe tension, delivery is overend from either a redraw bobbin, cone, or conventional iron head; and tension is so applied that the yarn can be quilled without running the twist back or having a backed-up twist condition between the tension and the supply. The tension disks, which are mounted face to face, form a groove in which the crepe yarn runs. These tension disks receive motion from the yarn which causes them to revolve in the same direction and at the same speed as the yarn itself is moving.

Tension is applied by a spring-loaded hub connected to a bracket on the frame and the compensator. Tension applied in this manner does not disturb the twist; so the possibility of twist displacement during quilling is eliminated.

When quilling raw-nylon yarns, 70 den. and above, the disk-quill tension gives satisfactory results up to 30 turns. Above 30 turns, the crepe tension has proved satisfactory if the diameter of the yarn is sufficient to prevent it from pinching in the groove.

Because a great deal of non-uniform contraction trouble can be encountered on finer-denier raw nylon taken direct from the pirn to the quill, it is essential that a minimum of tension be applied during quilling. It is even better to redraw the yarn prior to quilling. The addition of twist or pre-shrinking, or the use of a two-shuttle loom, also helps eliminate some of the fabric defects resulting from uneven contraction of nylon during quilling.

Life and Cost of Loom Parts

(Reports of four mills)

Mill	Loom		Speed (p.p.m.)	Shuttles (hr.)	Pickers (hr.)	Check straps (hr.)	Picker sticks (hr.)	Supply cost per loom hr. (¢)
	Model	Width (in.)						
A	X	36	182–192	864	540	.....	2,250	1.5
	X	40	160	1,800	1,350	.....	5,200	0.7
	X-2	44	182	1,176	540	636	2,680	1.1
	E	40	160	2,940	1,350	.....	5,200	0.55
I	X	40	180	1,705	442	849	9,164	0.88
	X-2	40	192	3,103	819	416	1,227	.....
	X-2	48	172	4,901	593	980	2,453	0.717
	X-2	60	153	1,307	406	470	1,133	.....
	E	40	150	3,569	1,638	1,079	7,074	.....
	E	60	125	4,686	886	1,223	8,725	0.619
M	X	40	190	1,500	200	.....	1,210	.....
	XL	90	120	2,500	320	.....	1,250	.....
	XL	100	112	2,500	320	1,600	1,250	.....
	L	90	110	3,200	335	.....	1,095	.....
	L	100	100	3,200	335	.....	1,095	.....
T	X	54	...	2,417	334	465	2,516	.....
	X-2	44	...	2,387	762	959	2,303	.....
	E	40	...	2,231	651	1,758	1,611	.....
	E	60	...	2,947	934	1,485	2,968	.....
	E	62	...	3,888	699	1,860	4,014	.....
	D	70 & 72	...	4,857	2,202	2,114	4,052	.....
	O	96	...	1,513	519	2,437	1,682	.....

Cloth Defects

Causes consolidated from reports by several mills

1. Mispick
2. Misdraw
3. Coarse threads
4. Ropy filling
5. Jerked-in filling
6. Wavy cloth
7. Thin places
8. Thick places
9. Overshot
10. Holes
11. Large slubs
12. Knots
13. Tangles
14. Break-outs
15. Oil spots
16. Mixed filling
17. Sloughed filling
18. Over width
19. Under width
20. Broken selvage
21. Kinky filling
22. Starchy place
23. Float
24. Shuttle mark
25. Bad harness setting
26. Open reed
27. Hard size

Georgia WEAVERS Compare Operating Data

HIGHLIGHTS: *Loom supply cost ranges from 0.55 to 1.5 cents per loom hour—Responsibility for quality rests with second hand, fixer, and weaver in most mills.*

WEAVING PRACTICES employed in 20 Georgia mills and mill groups, operating 21,672 looms, were given in written answers to questions submitted to the mills prior to the fall meeting of the Textile Operating Executives of Ga. The questions and written answers on weaving are presented here in condensed and summary form. A similar report on the slashing panel appears elsewhere in this issue.

Question: What type of shuttle bristle and fur do you find most satisfactory on your filling?

Four different kinds of shuttle bristles and four different kinds of shuttle fur are used by the mills that answered this question. Of the 17 answers in regard to bristles, eight specified horse hair, six specified hog hair, two named nylon bristles, and one reported camel hair.

Only eleven mills stated the kind of shuttle fur they use. Six use opossum fur, two use rabbit fur, two use muskrat fur, and one uses sheepskin.

Most of the mills that reported glue in the shuttle bristles themselves. A few, however, buy shuttles with the bristles already in place.

Mill A reported its method of installing bristles as: "We dip one end of the bunch of bristles in glue, insert that end in the hole in the shuttle, and drive in the holding peg."

Mill C reported that the number of bristles it uses depends on the filling number. For 2.70s to 18s filling, the number of bristles in each tuft ranges from 14 to 2.

Mill F reported: "The bristle is installed when the shuttle is purchased. It is located on the top front wall of the shuttle at an angle of about 45°. It touches the top layer of yarn at the end of the bobbin at about the center of the bobbin diameter."

Mill R reported: "We place an empty quill in a new shuttle and begin drilling the bristle hole in the side of the shuttle at a point opposite the second ring from the quill tip. We drill slightly downward and in at about a 45° angle to the quill so that the end of the bristle will lie on the quill approximately ¼ in. from the tip. The hole for the bottom bristle is drilled at about the same position on the shuttle, but we do not allow the bottom bristle to have as much pressure as the top bristle has."

CLOTH QUALITY. Question: What is your method of controlling quality in the weave room? How much responsibility does each of the workers have?

Slight variations in placing responsibility for cloth quality were reported by most of the mills that answered this question. A good composite picture, as given by several mills, of job responsibility is:

Second hand (Mill A): "The sec-

GEORGE D. BAKER, superintendent, Paco'et Mfg. Co., New Holland, led the discussion on weaving.

Loop-Selvage Wires

Mill	Kind of wire	Wire dia. (in.)	Let-off	How to prevent damage to reeds
B	Piano	0.045	Stationary	Use steel dents on outside of reed
C	Piano	0.042	Stationary	Have found no way
I	Piano	0.026	Stationary	Use one heavy dent on each side
J	Piano	0.029 and 0.033	Positive	
M	Piano	0.026	Stationary	Use steel dents on outside of reed
O	Piano	0.037 and 0.042	Stationary	

ond hand is the key man in quality control. All seconds are passed to him for proper handling and follow up. He places responsibility and goes over the causes and effects of bad work with the personnel responsible to him. He delegates all assignments and follows up on these assignments to see that they are properly carried out."

Fixer (Mill A): "Immediately after taking over on his shift, the fixer checks the cloth, Stafford thread cutters, feelers, and the warp tension on his looms. Throughout the shift his job consists of making the necessary repairs when looms are flagged and checking looms when new warps are put in. He is supposed to patrol his looms and make necessary repairs even though the loom has not been flagged."

Weaver (Mill S): "Weavers are held fully responsible for all seconds made on their looms. They should patrol their alleys regularly and should never have over 1 yd. of cloth woven that they did not see."

Inspectors (Mill R): "We have a floor inspector who continually inspects for weaving or mechanical defects. She records each defect found and turns the list over to the second hand, who follows up on defects that would be termed continuous and mechanical."

Mill S: "Inspectors are held responsible for double ends, misreeds, and misdraws."

Tying-in man (Mill C): "The tying in man should tie in the warp straight, with none of the warp ends crossed. He should see that each end is tied and that none is left out of the warp."

Smash hand (Mill A): "The smash hand does all picking-out work and repairs all smashes. She is held responsible for inspecting the cloth on every loom at least twice each shift."

Mill S: "Smash hands are held responsible for the condition of the warp after they have smashed it. This includes any imperfections such as narrow stripes, mixed colors, doublings, ends left out, etc."

QUALITY CONTROL. Control of quality in most of the mills reporting consists in constant inspection and correction of defects by weave-room personnel and in following up defects found by cloth-room inspectors. One of the most complete systems for control was reported by Mill G.

"All our cloth is given an inspection by weave-room inspectors after it is doffed. Defects to be tagged include such things as thin stripes, thick stripes, overshots, streaks, bad start-ups, and any major defects.

"The inspectors are checked frequently to make certain that they are inspecting correctly.

"A record is made on a loom-defect slip of all major defects according to loom numbers. If there are too many defects in a roll of cloth, the roll is sent back and shown to the weaver.

The loom-defect slip is given to the third hand, who keeps a record of all loom numbers under his supervision. The slip is then given to the fixer, who repairs the loom, signs the slip, and returns it to the third hand. The third hand then inspects the loom.

"A list of looms making repeated defects is given to the second hand daily. He checks the loom to see that repairs have been made. If a loom repeats a defect as many as three times, the loom number is given to the overseer.

"A record is kept on each weaver. If defects run too high, the weaver is cautioned about his work. If it continues and the overseer is convinced the weaver cannot or will not do better, the weaver is discharged."

CONDITIONING FILLING. **Question: Do you condition filling?**

Nineteen mills answered this question. Eleven of them condition their filling and seven do not. One mill conditions filling for feeler goods and does not condition nonfeeler-goods filling.

Ten of the eleven mills that condition filling use a spraying machine; most of them let the filling set 2 hr. before it is put in the loom.

The eleventh mill conditions worsted filling in a conditioner with a wet-bulb reading of 165 and a dry-bulb reading of 175° F. The filling remains in the conditioner 30 min.

Some of the reasons given for not conditioning filling by the seven mills that use unconditioned yarn were:

1. Rings on the quills rub the wet yarn and cause it to mat, thereby increasing filling breaks on the looms.
2. Damage to quills.
3. Expense of conditioning fluid.
4. Extra labor cost for handling at the conditioning machine.
5. Filling yarns coarser than 8s are not helped by conditioning.
6. Conditioning doesn't help colored yarns.
7. Conditioning doesn't help ply yarns.
8. High weave-room humidity conditions yarn sufficiently.

PINION AND FRICTION. **Question: How do you prevent motor pinions from stripping the teeth of the disk friction on X-model looms? How do you prevent the hub of the friction disk from slipping on the crankshaft?**

Mill H reported: "Keep the motor tight on the base plate and the plate tight."

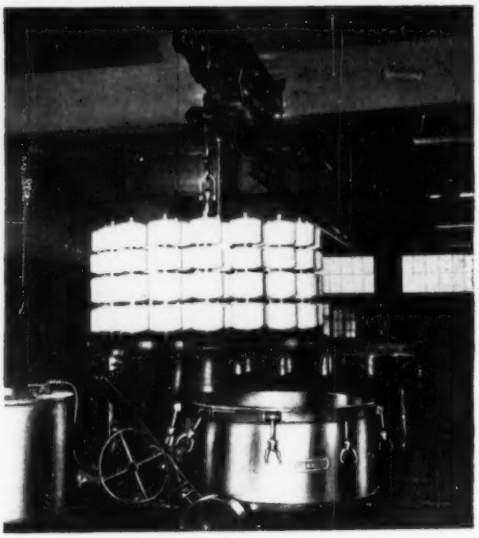
Mill I: "Use an adjustable bracket from the motor stand to the motor base to hold the base in proper adjustment. Keep the stands tight."

Mill J: "Keep motor-pinion gear properly meshed with disk friction."

Mill M: "Press the hub of the fric-

(*Continued on page 208*)

SKEIN-HOLDER TUBES in this dye vat are made of stainless steel, as is the lining of the vat. Proper handling, quick cleaning, and strength are factors behind use of the stainless steel.



PERFORATIONS of smooth stainless steel in this package-dyeing machine insure even dye-liquor flow and eliminate rough edges that might catch yarn. Dyeing is quicker, more even, and less costly.

STAINLESS STEEL the Answer To Many Corrosion Problems

HIGHLIGHTS: *18-8 type stainless-steel dye vat reduces cleaning time from 5 hr. to 20 min.—Stainless-steel continuous washers process over 300 yd. per min. —Savings in amount of equipment, floor space, and time are worth-while.*

STAINLESS STEEL can solve many corrosion problems in a growing range of textile applications. It has been put to work in many branches of textile production—manufacturing of fibers, spinning, weaving, dyeing, and finishing. One type of stainless steel used extensively in textile-processing equipment is 18-8. This low-carbon steel contains approximately 18% chromium and 8% nickel. Its outstanding physical properties are corrosion-resistance, hardness, and strength.

High-chromium content is what makes the steel "stainless." When exposed to air, chromium unites with oxygen to form a surface oxide—a coating which protects the steel from rust and discoloration, and which continually renews itself if scratched or broken. Thus, constant protection from corrosion is provided.

Analyses other than 18-8 are provided for special circumstances. For example, a new stainless type, Carpenter Steel Co. No. 20, has been developed for high resistance to sulphuric acid and to many other corrosive agents. As new demands are made, new steels are created to fit these needs. But a great majority of all stainless applications are made of 18-8 chromium-nickel austenitic steel.

USES. The resistance of stainless steel to corrosion is of special benefit to the manufacturer of rayon and synthetic fibers. In making acetate rayon, cellulose is treated with acetic acid; the resulting "acid dope" must age before being passed through spinnerets into filament fibers. Stainless steel is used in the manufacture of aging tanks, spinnerets, and wherever else this corrosive acid dope comes in contact with metal surfaces.

Other uses of stainless steel include the processing of stock, both before spinning and afterwards. For example, because stainless steel does not rust, it is used to line the insides of conditioning-machine cabinets.

Many mills have modernized old looms by installing stainless-steel harness parts, heddles, reeds, and drop wires. For the weaving of filament-rayon and some other synthetic yarns, stainless-steel heddles and reeds are standard equipment. The metal is also used for separators, centering eyes, bobbins, ferrules, and pins on throwing machines. In these uses, hardness provides resistance to denting or scratching from the cutting action of the yarns, while toughness provides long wear.

Other machine problems among spinners and weavers include: (1) damage to delicate fabrics from snagging, tearing, or pulling on a rough surface; and (2) wear and tear on

machinery from constant friction or banging of moving parts. Stainless steel offers a smooth, hard surface, and a resistance to wear which can reduce or even eliminate these machine problems.

DYEING. A bottleneck in textile production is often the dyeing operation. In days gone by, equipment was largely wood. Subjected to the action of corrosive liquid, wood roughens or splinters, and catches and snags fabric. Furthermore, wood absorbs dye colors. Before the advent of stainless steel, non-ferrous metals proved no better than wood. They presented a problem of contamination from copper pick-up and corrosion.

In wooden vats, a boiling-out process between change of dye colors is necessary to keep fabrics fresh and free from contamination from previous colors. But cleaning out dye vats usually takes four or five hours. With stainless equipment, cleaning takes about twenty minutes. The surface of stainless steel can be easily flushed, requires no boiling-out, and with welded seams provides no crevices for old dye liquor to lodge in.

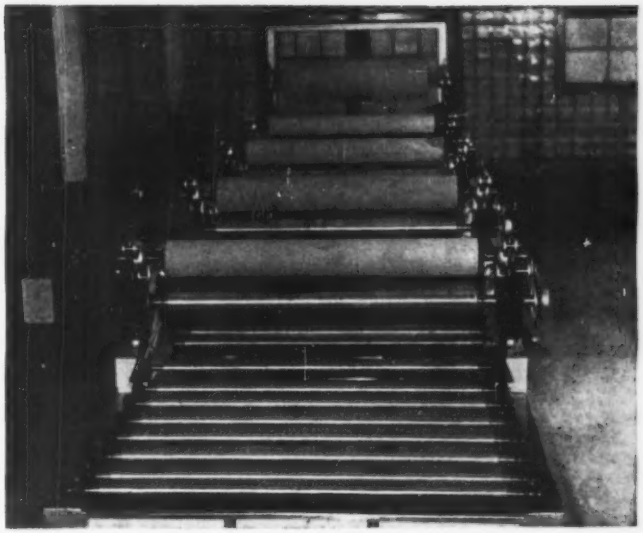
Stainless steel is today used in open-width washers featuring tensionless wet finishing of fabrics. Purpose of the new equipment is to process fabrics in a totally relaxed condition. Elimination of pulling and stretching during processing has helped solve the finished-fabric shrinkage problem.

One manufacturer of the new-type washer, Rodney Hunt Machine Co., states that the most delicate fabrics can now be processed at a speed of 300 yd. per min. and more. This combination of speed under tensionless operation means higher quality fabrics at lower cost. The same principle has been applied to rope washers.

Chromium-nickel stainless-steel tubs are built on a patented "curve-of-strength" principle so that the sides will withstand the pressure of the liquid load. Stainless steels are used for three reasons: (1) strength; (2) corrosion resistance to the chemicals used during wet finishing, and (3) smooth, hard surface that makes cleaning easy. Stainless steel makes it possible to use the rollers and tub for a dark color and, after a simple cleaning that requires only a few minutes, to use the same equipment for extremely light colors.

SAVINGS. When stainless steel is used and increased production results, less equipment is needed. In some cases, one stainless-steel vat has replaced ten or even fifteen wooden vats. With less equipment, storage space is reduced. There is no need for duplicate equipment for use with different colored dyes. Stainless-steel tubes are strong enough to support a load of as many as 400 packages of yarn. In skein dyeing, stainless steel provides the necessary strength to hold heavy loads of wet skeins in the dye cage.

Stainless steel is now available in all the forms common to ordinary carbon steels: bar, wire, strip, tubing, sheets, plate, special castings, and forgings. Depending on composition, it can be fabricated by any of the methods used in the fabrication of carbon steel. It can be cast, drawn, cold-worked, hot forged, etc. Stainless-steel, in short, has increased its usefulness in many forms in the textile industry.



ROLLS of stainless steel are corrosion-resistant and will last indefinitely. Ease of cleaning is another major advantage.

Six Uses of Stainless Steel In Each of Six Departments

1. Spinning:
- Bobbin heads
- Gudgeons
- Guides
- Rods
- Separators
- Spindles

2. Knitting:
- Guides
- Knock-over bits
- Sinkers
- Stop motions
- Tension devices
- Transfer points

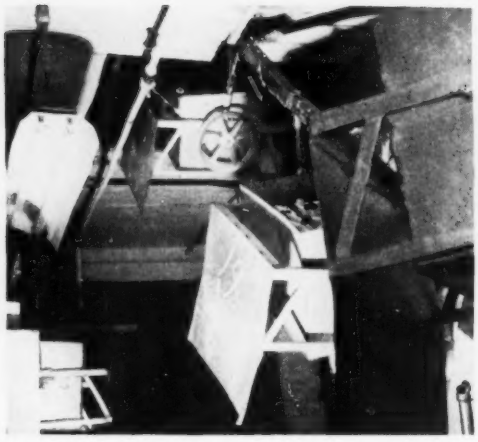
3. Slashing:
- Drums
- Hoods
- Rollers
- Size boxes
- Tensions
- Traverse wheels

4. Weaving:
- Control instruments
- Drop wires
- Feelers
- Guides
- Heddles
- Reeds

5. Dyeing:
- Dippers
- Hoods
- Hydroextractors
- Jigs
- Kettles
- Pipes

6. Finishing:
- Dry cans
- Fulling machines
- Kiers
- Reels
- Tenter clips
- Washers

USES of stainless steel are many in a textile mill. Departments of spinning, knitting, slashing, weaving, dyeing and finishing are among those that can in the long run save money by using stainless steel.



BOXES LOADED WITH YARN leave the loading station, travel down an inclined section of rail, and straighten out along the winder-room ceiling. The box in the lower left-hand corner is beginning its second loop over winders.

YARN IS POURED into a box that has just come up the inclined track from the first-floor winder room. The loaded box in the background is about to return to the winder room down the inclined return track.

Winder-Yarn CONVEYOR Saves $10,000 a Year

HIGHLIGHTS: *Yarn-handling system takes yarn from spinning room to winder creels—One yarn dumper does the work of three men—Oily yarn, mixed yarn, and winder-operator complaints reduced.*

By G. C. WARREN, Jr.
Superintendent of Maintenance, Russell Mfg. Co.

A $6,000 INVESTMENT that will save an estimated $10,000 a year has just been made at Russell Mfg. Co., Alexander City, Ala.

The investment was made in a conveyor system for handling knitting yarn between the spinning room and winders in Bettie Francis Mill No. 2. The direct saving amounts to four yarn men. Before the system was installed, six men, three on each of two shifts, were needed to lay up yarn on the winder creels. Now only one man on each shift is needed.

The system consists of yarn-carrier boxes mounted on a Richards-Wilcox Zig-Zag track. The track is 1,080 ft. long and at present is set to travel 20 ft. per min. It is driven by two ½-hp. motors. Track is laid out so that the carrier boxes are loaded with yarn at the end of the spinning room on the second floor. Each carrier box holds one spinning-frame doff of yarn, and loading is done as the box travels along on the track.

The loaded carrier box then moves down an inclined section of the track through a hole in the floor. When the box is clear of the hole, the track straightens out just under the ceiling of the first floor, where the winders are located. The loaded box of yarn then travels over one winder creel, makes a turn, and comes back down the creel of the next winder. Travel continues in this manner until all eight of the winders have been covered.

SPARE-FLOOR TRACK. Two extra lengths of track, making a loop over the spare floor used for a storage area adjacent to the winders, were installed. After the circuit of the winders, the yarn carriers make the loop over the spare floor; then they return to the spinning room up another inclined section of track through the spinning-room floor.

The loop of track over the spare floor is used at present for quickly dumping yarn into storage boxes when a change of yarn is made.

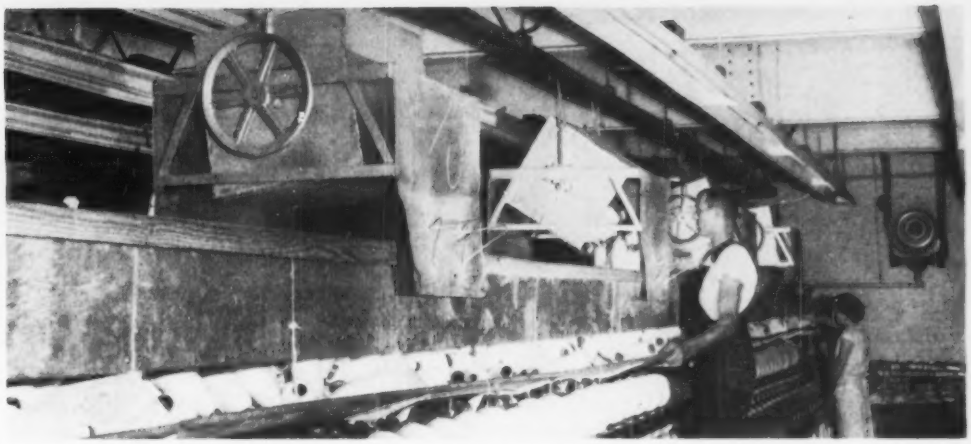
Plans are under way to use it also as an aid in doffing cones from the winders. Two cone holders were attached to each side of the yarn-carrier frame. When a cone of wound yarn is doffed from the winder, it can be stuck on one of these holders. When the carrier box reaches the spare floor, the cone can be taken off and placed in the proper storage box.

This use for the conveyor has not been worked out satisfactorily yet. At present there is not enough clearance between the return section of track and the end loop coming from the last winder to permit the yarn holders to pass each other. It will be necessary to move the return-track section a foot or more to one side to make the cone-conveying use practicable.

Russell expects to work out this phase in the early future.

To install the system it was necessary to make a yarn carrier and a special winder creel. These details were worked out by Russell and Conveyor Mfg. Co., Decatur, Ga.

YARN CARRIER. The carrier is a rectangular sheet-metal box 27 in.



***DUMPING YARN IN THE CREEL** is done by turning the handwheel to tilt the box. In less than a minute, a doff of yarn is "laid up." Yarn numbers are written on the baffle-plate guards.*

wide, made to hold exactly a doff of yarn. It is swung on pins at the ends to a sheet-metal frame, which is swung by two metal arms from the conveyor track. A baffle plate is attached to each side of the frame. These plates extend below the top edges of the winder creel and are flared out about ½ in. so that they barely clear the sides of the 27-in.-wide creel.

The special winder creel is also made of sheet metal. It is divided into sections, with partitions between the sections. Each section is a few inches longer than the length of the carrier box and will hold a little more than a doff of yarn.

When a creel section needs refilling, the yarn dumper turns a handwheel mounted on the pin at one end of the yarn box. The wheel tilts the box, pouring the yarn out of the box. The baffle plate on the side of the frame prevents the yarn from falling to the floor and guides it into the winder-creel section.

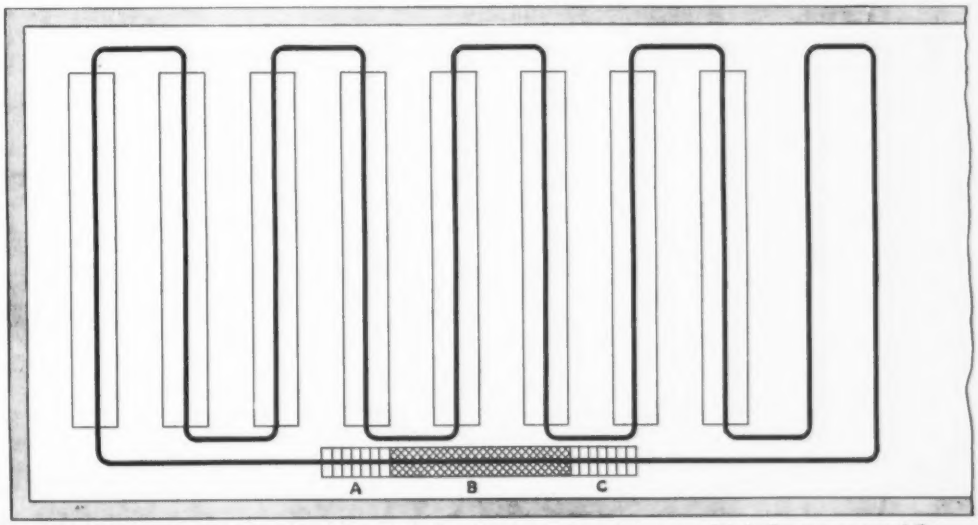
When the box is empty, the yarn dumper releases the handwheel and the weight of the box swings it upright again.

It takes less than a minute for the yarn dumper to "lay up" a doff of yarn, and no lifting is involved.

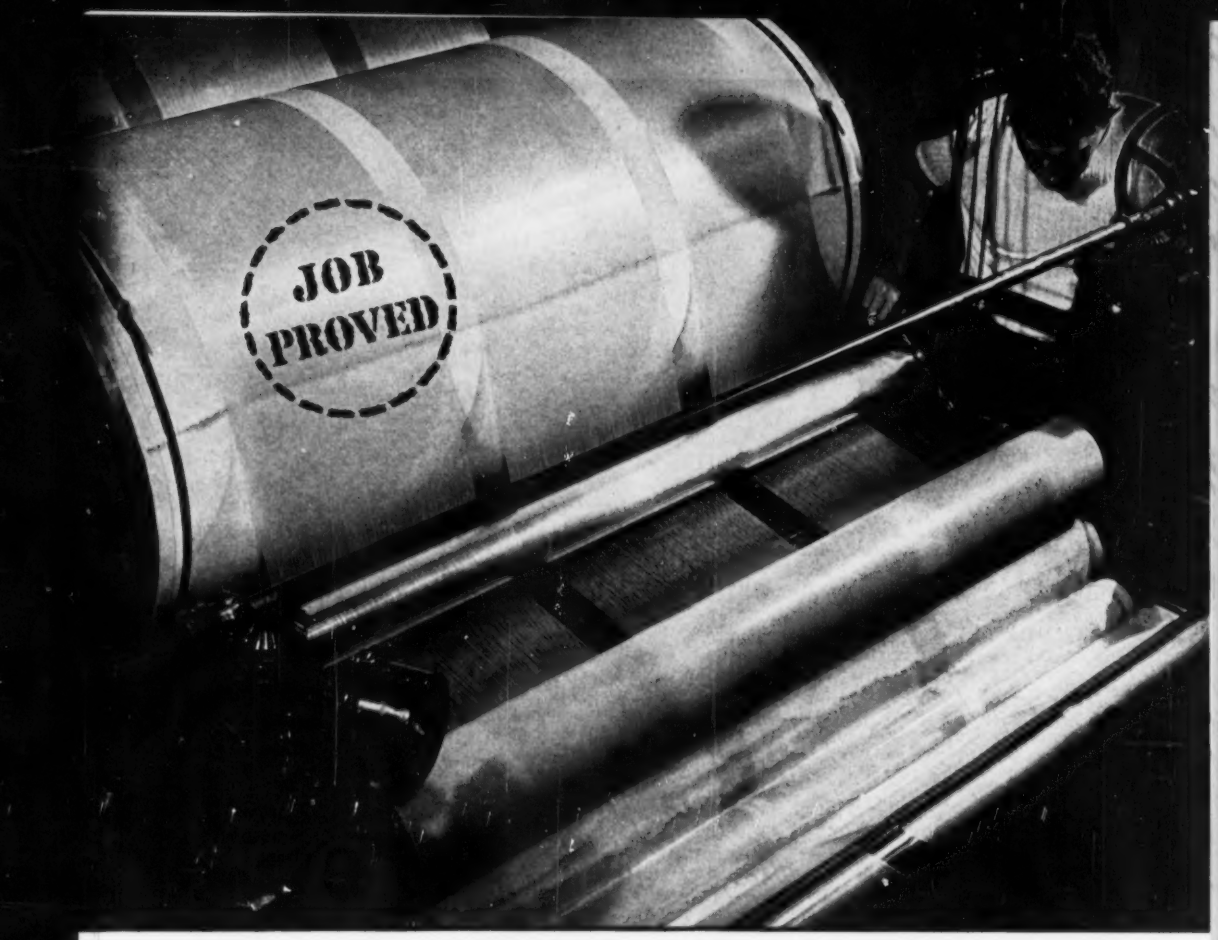
NEED LARGER BOX. An improvement that Russell has found possible would be a slight increase in the capacity of the carrier box. When the box is completely full, it has a tendency to tilt to one side enough to drop a few bobbins of yarn. Also, the box is easier to dump when it is not quite full.

Because of the low ceiling, it is not possible to raise the track over the traffic alley between the wall and the ends of the winders. The result is that the baffle-plate sides of the carrier frames presents a slight accident hazard if someone should walk down the alley without watching for the carriers.

(*Continued on page 198*)



***CONVEYOR SERVES** eight winders. A and C are inclined sections from and to spinning room. B is loading area on second floor.*



MILL SAVES 25% ON FORMULA COSTS

Sunotex Replaces 3 Formula Components on Slashers Sizing Synthetic Warps

A textile mill was using a softening oil, a penetrant, and a preservative for sizing viscose and acetate warps on a Johnson slasher. The use of so many components was expensive. They were also hard to handle, because they either had to be dissolved separately before addition to the formula, or heated before compounding.

A Sun Engineer, asked to study this problem, recommended that all three competitive oils be replaced with a single Sun product—"Job Proved" Sunotex. There was an immediate improvement in smoothness and sizing, extending over a 4-year period. Also, the same components worked equally well on Fortisan and Nylon when these were added to production. There has been a 25 percent saving in formula costs. Furthermore, Sunotex is uniform in quality, easier to handle, emulsifies readily and requires no reconditioning.

This is typical of the reduction in costs and improvement in products made possible in many mills with the help of Sun Textile Processing Oils. For further information about Sunotex or other Sun products for fibre-processing, call or write the nearest Sun office. The services of a Sun Engineer are available without obligation.

SUN OIL COMPANY · *Philadelphia 3, Pa.*
In Canada: Sun Oil Company, Ltd.
Toronto and Montreal

SUN PETROLEUM PRODUCTS
"JOB PROVED" IN EVERY INDUSTRY

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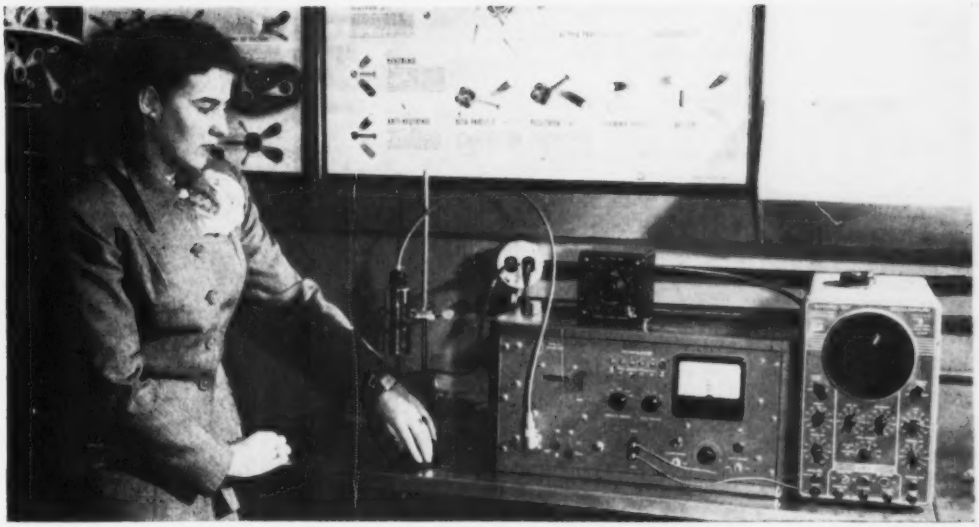


EQUIPMENT used for measuring radioactive tracers is so sensitive that it responds to radiation from luminous numbers on a wrist watch.

Wider Textile Uses Now For RADIO-ISOTOPES

HIGHLIGHTS: *Tracers show what happens to fibers in a blend—Exhaustion or retention of materials quickly measured—Crease-resistance and water-repellency compounds evaluated—Radiation need not be feared.*

NEW USES ARE constantly being found for radioactive materials in solving textile problems. The uses explained here at best can show only some of the new avenues that are being opened up. In some instances, the textile use grew out of, or was indicated by, work done in some other field.

One peculiarly textile problem is what happens to the different fibers in a blend. Often, especially in wool blends, final yarns do not contain fibers in the same proportion that originally went into the blend.

For example, a mill may make a wool blend containing 30% of one type of wool, 20% of another, 25% of a third, 15% of a fourth, and 10% of a fifth. In the ensuing yarn, some of the foregoing proportions may remain constant while others vary.

If, after scouring, one of the types is treated with a selected oil into which a radioactive isotope has been incorporated, it is possible to trace its progress through subsequent processes. By recording the activity of that one type in the initial blend and after the yarn is made, it is possible to calculate the percentage composition of that particular type of wool in the final yarn. The other wools can be determined in successive tests, to give a clear picture of what happens.

The wool can be tested during processing (particularly after carding) to see at what stage, or stages, the blend changes.

The retention of alkali (or oils or other materials) by wool can be determined by use of tracers. The particular alkali used can be rendered radioactive, and then the amount retained in the wool after scouring can be easily detected and measured with the use of nuclear instruments such as the Geiger counter.

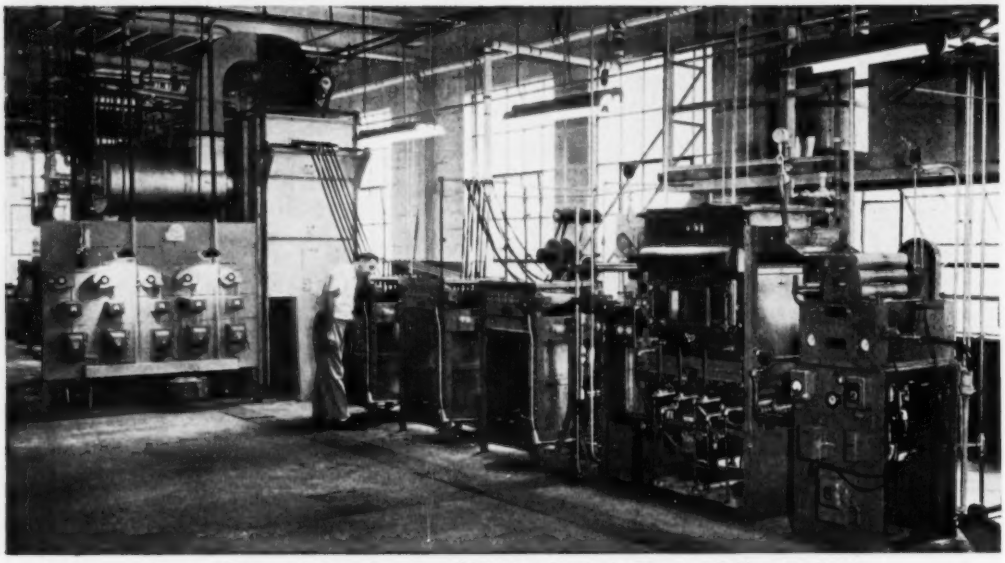
Similarly, a detergent can be "tagged" with an appropriate radioactive element, and its strength in a bath at any time can be quickly measured without disturbing the solution.

COMPOUNDS. Quantitative tests for efficiency of crease-resistance and water-repellent compounds are difficult to make. But by means of isotopic techniques, it has been possible to measure quantitively the specific properties of these compounds.

Today's popular crease-resistant and water-repellent substances have been synthesized with the radio-isotope carbon 14. Various types of fabrics have been treated with these tagged compounds and subjected to standard wash tests. At the conclusion of each test, the amount remaining on the fabric was evaluated by means of a Geiger counter and nuclear measuring devices. In this manner their efficiency was accurately evaluated.

For some purposes it is desirable to print yarns before they are woven, and registration becomes a problem. To check registration, a radio-active isotope, cobalt 60, has been successfully used. The cobalt is used in a colored marker. After printing, the individual ends are lined up by means of a Geiger counter.

It is possible that information found



The new Butterworth Range for narrow fabrics includes: 3-roll Laboratory Padder with liquid level control, Air Dryer, Take-off Mechanism, 3-roll Laboratory Padder with liquid level control, Laboratory Steamer, three 6-roll washers, Air Dryer and Curer. 10-cylinder Dryer and Finishing Section, and Take-off Mechanism. Partial view of Range is shown above.

600 Yards of Narrow Fabrics Per Minute

Now you can do continuous dyeing and finishing of narrow fabrics at a rate of 600 yards per minute with the new two-stage Butterworth Continuous Dyeing and Finishing Range. From undyed fabric to windup in 70 seconds!

Here is the first vat color range for narrow fabrics. So *flexible* it can also be used as two separate sections on direct colors with a total production of 1200 yards of narrow fabrics per minute. Fifteen strands at 40 yards per minute can be handled in this new range.

Here is the ideal range for hat bands, ribbons, tapes and other narrow fabrics where profit depends on volume. Advantages of the new Butterworth Range include high speed production, less floor space and appreciable savings in labor, chemical and steam costs.

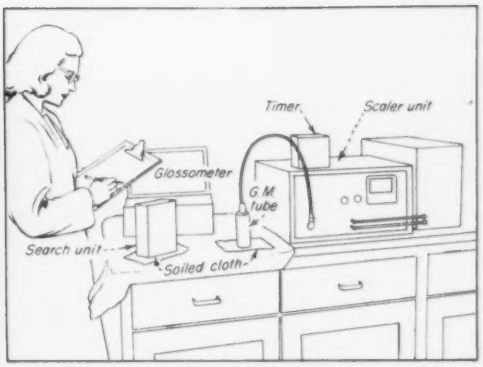
Check some of the outstanding features:

- Variable speed control equipment
- Automatic temperature control for Dye Box, Washer boxes, Dryer and Curer
- Range occupies area only 60 feet long
- Optional take-off mechanism

Compare older methods of dyeing and finishing narrow fabrics in skeins, involving separate operations, with finishing in range. Savings become increasingly evident. Are finishing plant problems slowing down your narrow fabrics production? Then find out today how you can build profitable production volume with this new Butterworth Finishing Range. Write or call:

BUTTERWORTH

H. W. BUTTERWORTH & SONS COMPANY, Phila. 25, Pa. • Providence Div., Providence R. I. • 1211 Johnston Building, Charlotte, N. C. • In Canada: W. J. Westaway Co., Hamilton, Ont.



EFFECTIVENESS OF DETERGENTS in removing soil is being measured here. Sketch identifies equipment used.

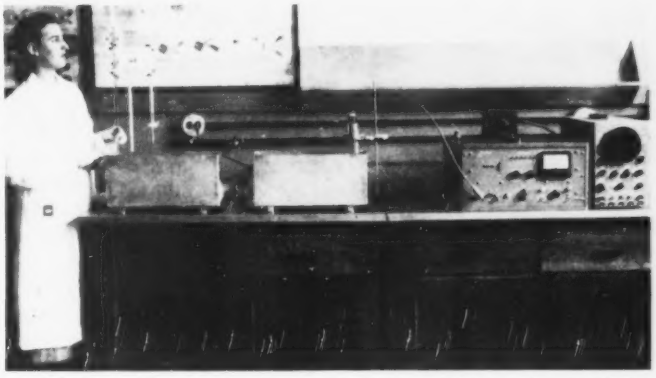
in testing paints may ultimately be applicable to pigment colors used on textiles. It was found that a freshly prepared paint may have a drying time of 3 hr., whereas the same paint after a considerable period will exhibit a much longer drying time. It was suspected that the pigment absorbed some of the activator used in the paint and thus caused the phenomenon. The mystery was solved satisfactorily by isotopic means.

An activator was selected and properly treated to render it radioactive. A known amount was added to the paint while stirring continuously. At definite intervals of time, a weighed sample of paint was separated into its pigment and vehicle by centrifuging. The pigment was dried and checked for the amount of radioactivity it emitted. With other data, the amount of activity was correlated to the percentage of activator that was absorbed by the pigment. It was also possible to obtain the rate at which this absorption took place.

A similar problem has occurred in the use of a plasticizer for plastics (such as those used in plastic coating of fabric). It is important that a plasticizer be permanent in regard to volatility; resistance to extraction by water, oils, and greases; and chemical stability.

A plastic film was molded with a tagged plasticizer (di-butyl phthalate with carbon 14). The rate of migration of this component onto a nitrocellulose-coated test panel was determined with the aid of a Geiger counter.

The test was extremely sensitive and quantitative and was conducted under controlled temperature and pressure conditions. Experiments are now in progress to evaluate the extent of volatility and resistance to extraction of various leading plasticizers.



PASSAGE OF A LIQUID through a coated fabric can be measured by use of a set-up similar to this one for testing passage of sea water through a paint film.

The proposed apparatus in the case of volatility is a closed chamber on top of which are arranged radiation-detecting and measuring devices. A plastic material containing a radioactive plasticizer is to be placed in this chamber under controlled temperature and pressure. During volatilization, instruments will record the rate and amount of plasticizer leaving the test specimen. Similarly, a water, oil, or grease extraction of a plastic film containing a radioactive plasticizer can be conducted efficiently to give the amount of plasticizer removed from the test specimen. Again, the technique is extremely delicate and quantitative.

More "Tagged Atomic" Developments

UTILIZATION OF atomic-energy byproducts by the textile industry was first surveyed by TEXTILE WORLD and reported in the issue of December, 1948. Since then, additional actual and potential textile uses of radioactive materials have come to light.

Recognizing that an entire new field had opened up, the United States Testing Co. has installed equipment in its Hoboken, N. J., laboratory for conducting textile (and other) research using tracer materials. The photographs and material for this article were made available to TEXTILE WORLD through the courtesy of the United States Testing Co.

RADIATION PRECAUTIONS. In using radioactive material such as outlined here, radiation need not be feared, but must be respected.

Everyone everywhere is daily exposed to radiation that arises from natural sources. This radiation may be in the form of cosmic rays and their derived effects, as well as from the natural deposits in the earth. Uranium, for instance, is present in most rocks. Although in minute quantities,

(*Continued on page 200*)

Steel For My Lady's Gown

Hidden within the glamorous fabric of my lady's gown is a story of steel—and steel service.

Tiny steel hooks and eyes . . . steel zippers and snap fasteners aid in achieving lines of beauty. Steel needles, pins and shears help to fashion the dress. Steel spinning machines and looms play important roles in creating the soft, luxurious fabric. Chemical apparatus, much of it stainless steel, cradles its synthetic yarns, its colorful dyes.

Ryerson Steel Service is an important factor throughout the chain of modern dressmaking operations. Because the many thousands of Ryerson customers include needle makers . . . machine makers . . . textile mills . . . dye companies . . . and quite probably the automobile company whose steel truck delivers my lady's gown to her home.

Ryerson Service has met the myriad steel needs of industry for over 100 years. Thus Ryerson has contributed, in no small measure, to the efficiency of American business and the continued rise in standards of living.

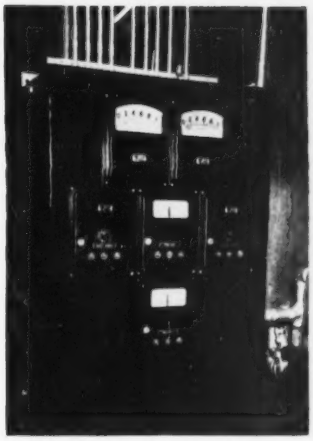
There's a Ryerson plant near you and while the steel strike has depleted our stocks, we can still give fairly good service. So call us when you need steel—no matter what the kind, size or quantity.

Large Stocks of Carbon, Alloy and Stainless Steel for Prompt Shipment

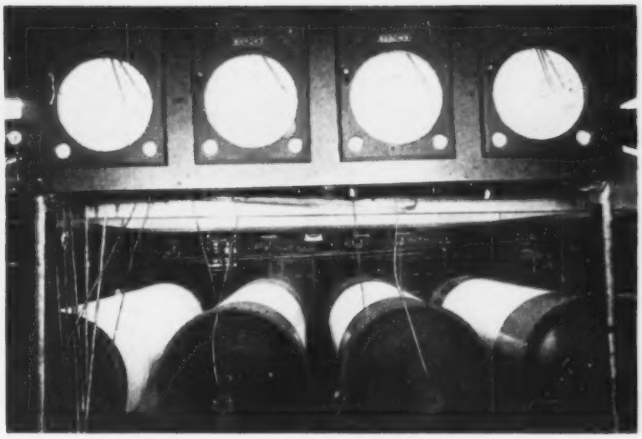
RYERSON STEEL

JOSEPH T. RYERSON & SON, INC., NEW YORK · BOSTON · PHILADELPHIA
DETROIT · CINCINNATI · CLEVELAND · PITTSBURGH · BUFFALO
CHICAGO · MILWAUKEE · ST. LOUIS · LOS ANGELES · SAN FRANCISCO

PHOTOGRAPH BY AVEDON FROM HARPER'S BAZAAR



BOILER GAS AND CONSUMPTION are controlled through these Hays instruments.

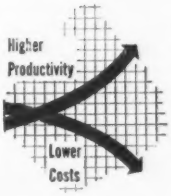


CYLINDER AND SIZE-BOX TEMPERATURES are controlled by eight instruments (seven for the cylinders and one for the size box) mounted above the slasher.

AUTOMATIC CONTROLS
Lower Costs, Raise Quality

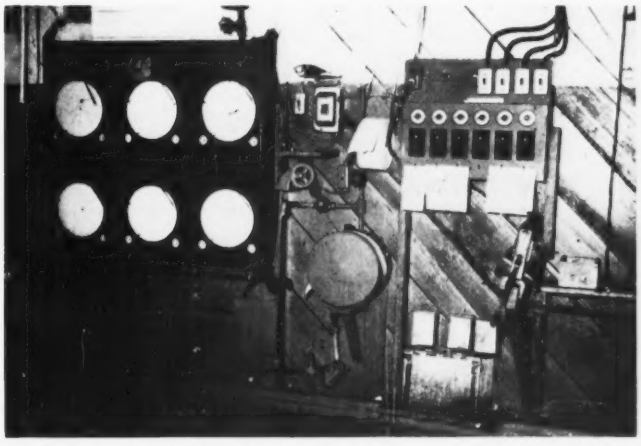
HIGHLIGHTS: *Personnel errors largely eliminated by use of control instruments for wet processing—Slasher-cylinder temperature controlled within 2° F., warp moisture regain within ¼ of 1%—Boiler room operated without an attendant.*

By E. DALTON WHITE
Mc-Graw-Hill Atlanta Bureau

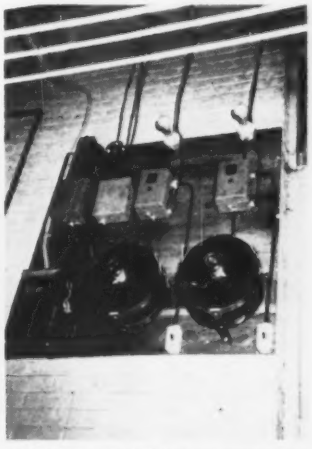


HIGHER QUALITY as a result of better control of processing is one of the aims of Classe Ribbon Works, Inc., Anniston, Ala. Elimination of variables through wider use of control instruments is netting increased uniformity in quality and better production efficiency.

Manufacturing a wide variety of ribbon for different purposes, the



EACH DYE VAT is equipped with one of the six controlling and recording thermometers at the left and one of the process timers at the right.



CALENDER OPERATIONS are controlled by two rheostats, signal lights, and switches.

NO MORE *TIPPY* WOOL

with

ANTHOMINE*

on the job!

IN ALL WOOL DYEING OPERATIONS *ANTHOMINE* INCREASES THE AFFINITY OF WOOL FIBRES FOR DYESTUFFS.

THIS RESULTS IN LEVEL SHADES WHEN DYEING STOCK, YARN OR PIECE GOODS.

TIPPY AND BLENDED WOOLS ARE DYED A SOLID SHADE BY ADDING *ANTHOMINE* TO THE DYE BATH.

Mills throughout the country use* ANTHOMINE *for:

- Even dyeing
- Brighter, fuller shades
- Quicker, better exhaustion of dyebath
- Softer, more pleasing "hand"
- Reduced processing time

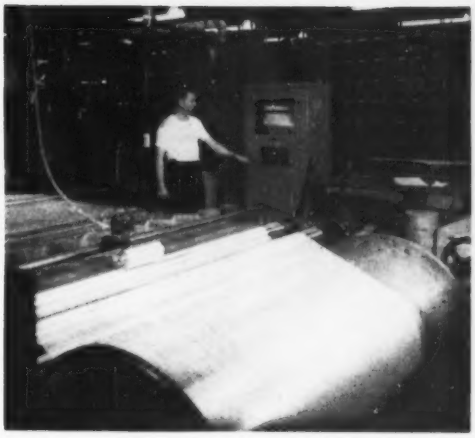
Send for Technical Service Bulletin #203-100.2 for complete information, including how to use ANTHOMINE for Top and Yarn Dyeing, Pressure or Package Dyeing, Leveling Unevenly Dyed Yarn or Shady Pieces, Dyeing Metallized Colors, etc.

Arkansas Co. INC.

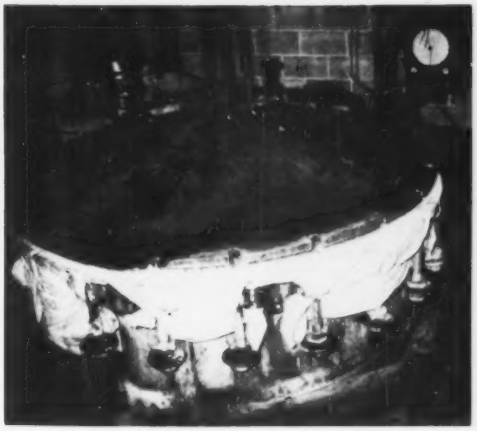
Manufacturers of Industrial Chemicals for Over 40 Years

NEWARK, NEW JERSEY

*Reg. U.S. Pat. Off.



MOISTURE REGAIN IN WARP is controlled between 7 and 8% by the Brown Moist-O-Graph and a variable-speed drive.



BLEACHING-KIER temperature is controlled through a Taylor instrument.

Classe mill uses nylon, cotton, and acetate- and viscose-rayon yarns. Ribbons are produced in widths varying from ⅛ to 5 in., processed for decorative material for lingerie, millinery, shoe bindings, hat bands, and printed labels.

Before the Classe mill moved into its present modern building, with the most modern equipment available, very few of its operations were controlled by instruments. Some experiments had been conducted, the success of which indicated many production advantages.

When the new mill was designed, production facilities were planned for high-speed operations with processing lines arranged for a minimum of materials handling. As a result of this planning, all materials pass from one department to another in a steady flow.

WARPS. Special attention was given to means for insuring properly sized warps. Quality at this point cannot be stressed too much in ribbon manufacture, since weaving efficiency depends largely on a yarn that has strength, flexibility, and resistance to abrasion.

Uniformly sized and conditioned warp yarn is produced on a seven-cylinder high-speed slasher equipped so that it is practically automatically controlled. The temperature in each cylinder is individually controlled within a 2° F. variation. The temperature of the size solution is maintained within the same narrow limits. Employment of a Moist-O-Graph enables the variation in the moisture regain of the finished warp to be controlled within ¼ of 1%.

Two types of controls have been installed on the slasher size box for maintenance of temperature and level of size solution.

Immersion time is controlled by the level in the size box through a system of electrode-type liquid-level controls. A pair of metal probes is mounted in the size box and adjusted so that one will make contact with the size solution at the point of maximum allowable level, while the other makes contact at the point of minimum allowable level. Thus, the level in the size box is maintained within ¼ in. and insures uniformity of size-solution strength, prevents cycling, and eliminates excessive agitation of the size solution that might result in foaming.

SIZE VISCOSITY. Size-solution viscosity is controlled by maintenance of a uniform temperature. A recording-thermometer controller, with its temperature-sensitive bulb inserted in the size box, operates the flow of steam to the heating jacket around the size box. The pneumatic control unit regulates the air pressure applied to a diaphragm motor valve controlling the steam flow. This throttling control has advantages over the "on-off" type of control, since temperature can be maintained within narrow limits.

Dual recording-thermometer controllers are used to regulate the temperature in each of the seven drying cylinders on the slasher. Four two-pen instruments have been installed, each incorporating two actuating elements and two pneumatic control units. Seven instruments are for the drying cylinders, and the eighth is for the size box.

The cylinder drying control is actuated by a thermometer inserted in the cylinder by means of a rotary pressure-tight fitting. Steam to each cylinder is controlled by a diaphragm motor valve that throttles steam in accordance with the air pressure applied by the recording controller.

The advantage of this type of temperature control for each cylinder is that steam is controlled at a rate to effect uniform drying at any cylinder speed needed for the type of yarn and number of ends being run. It also allows, if desired, a different surface temperature on each of the different cylinders to effect desired drying.

Percent regain is maintained within 7 to 8%, depending upon the type of yarn being processed. This regain is controlled by the Moist-O-Graph that regulates the speed of the slasher through a Westinghouse a.c.-d.c. variable-speed drive.

Instrumentation of the slasher has enabled the Classe mill to produce warps of uniform quality at a high degree of efficiency. Production advantage is reflected in eliminating the necessity of reslashing and in better weave-room efficiency.

OTHER CONTROLS. The use of instruments to control processing has not been confined to slasher operations. Rigid control of temperature is exercised in the bleaching and dyeing operations, as well as in finishing and calendering.

All bleaching, dyeing, and finishing is done at the mill under rigid controls to maintain uniformity in quality and color. Wooden dye tubs were replaced with stainless-steel vats

(*Continued on page 192*)

Methocel:

the Well Known Thickener

The outstanding advantage of Methocel as a thickener is that *so little will do so much.* For instance, three or four per cent of high viscosity Methocel will thicken water to the point where it will not pour. Such effective thickening action is highly useful in the formulation of textile printing pastes, particularly with naphthol dyes.

Methocel's thickening qualities are also widely used in the production of resin emulsions for creaseproofing textiles. Because of its thickening ability, Methocel provides effective control over the penetration of the emulsion into the fabric. Further, Methocel also acts as an ideal stabilizer in the resin emulsion itself.

Because it forms an excellent, tough, flexible film, Methocel is particularly valuable as a sole sizing agent or as a size modifier. Methocel reduces abrasion, minimizes friction and reduces loom stoppage.

Send for your *free* experimental sample of the *new* Methocel, *powdered.* Just fill out the coupon below.

THE DOW CHEMICAL COMPANY • MIDLAND, MICHIGAN

THE new *methocel*

DID YOU GET YOUR SAMPLE?

The Dow Chemical Company
Dept ME-193-B
Midland, Michigan

Please send free sample of METHOCEL, for use in_____

Check viscosity desired: 15, 25, 100, 400, 1500, 4000 cps.

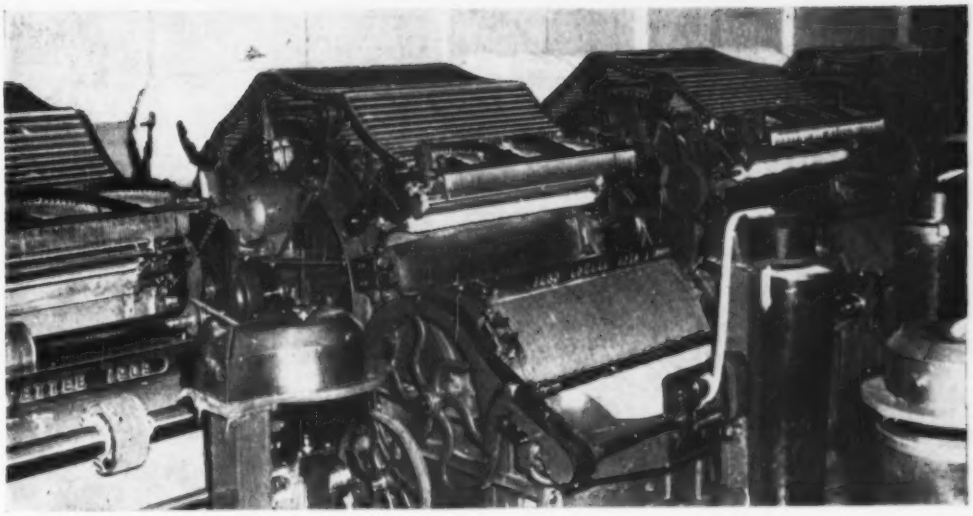
Name and Title_____

Firm_____

Address_____

DOW

CHEMICALS INDISPENSABLE
TO INDUSTRY AND AGRICULTURE



REWORKABLE WASTE from cards through spinning is reported to be 6 to 8%.

Mill Men Discuss PRACTICAL PROBLEMS

HIGHLIGHTS: *STA group reports on Texas cotton—New picker stick said to last up to 24 times longer than conventional—84 to 86% r.h. agreed best for weaving sheeting.*

PRACTICAL PROBLEMS in mill operation were discussed at the Southern Textile Association meeting of the Northern North Carolina and Virginia Division in Lexington, N. C. Subjects covered included reworking waste, proper humidity, weaving techniques, cleaning, and other operations.

Following are listed the questions raised and digests of the answers:

1. What percent of reworkable waste do you make and how do you dispose of it.

Mill A: 8% waste; fed through hopper on blending line.

Mill B: 6 to 8% waste; sliver and lap waste fed through opening line and all cleaning processes; spinning waste through waste machine.

Mill C: 8% waste; fed directly into picker hopper, none through cleaning processes; all roving and spinning waste sent through machine first.

2. What is most satisfactory method of cleaning ceiling and over-head fixtures in card room; and how often should it be done?

Mill A: Stop all machines, blow down with air, pick off line, run out laps, fan off flats, mop, and clean up every week.

Mill B: Blow down every week; mop off every day.

Mill C: Blow down with air every week while machines are stopped.

Mill D: Overhead cleaning by American Monorail; wipe top of light fixtures every two weeks; turn fan sidewise during lunch hour to blow off walls.

3. What percent relative humidity is most desirable on cards?

Mill A: 48%, set low because of outside humidity.

Mill B: Air conditioned with 50 to 55%.

Mill C: 50 to 55%.

4. Do you experience trouble with Texas cotton, such as lapping on front roll?

Mill A: Yes, last year; but this year cotton is very good.

Mill B: Texas cotton since August has given best results ever.

Mill C: Found that oils used at gins caused gum to form, resulting in laps; gins now do not use this oil.

Mill D: Low humidity as possible on irrigated cotton will prevent laps.

Mill E: No difference if quality of cotton is good. Fineness must be same.

Mill F: Run irrigated cotton after cool weather, so that steam will help control humidity.

Mill G: Mix of coarse and fine fibers caused trouble at cards and combers; now having buyers test for fineness.

Mill H: Several lots of cotton found to contain sticky substance that gave trouble at combers; Monday startup "almost impossible."

5. What type beaters are used at picker?

Mill A: Kirschner in front; Aldrich at back.

Mill B: Kirschner in front; 2-blade at back.

Mill C: Kirschner in front; 2-blade in middle; 3-blade at back.

Mill D: Replaced blade-and-Kirschner combination with two Kirschner

NON-FLUID OIL
TRADE MARK REGISTERED

53 YEARS

OF DOING ONE JOB WELL . . .

For 53 years, NON-FLUID OIL has set the standard for all lubricants used for Special* applications in the operation of textile machinery. Universal use of NON-FLUID OIL has set the pace for the imitations which have served only to emphasize the importance of the use of this most effective lubricant.

Constantly—we are told by our customers about the superiority of NON-FLUID OIL over oils and greased-filled oils and mixtures. Occasionally we have brazen requests from lubricant vendors for samples of our material, and their admission that they want them for purposes of duplication.

53 years have gone by and there has never been a long-lived imitation of NON-FLUID OIL. We anticipate that 53 years more will expire with no change in this situation.

*—Comb boxes, doffer, cylinder and lickerin bearings, all roll necks of carding and spinning, and for general application on all models and makes of looms.

NEW YORK & NEW JERSEY LUBRICANT CO.

292 Madison Avenue New York 17, N. Y.

Southern District Manager, FALLS L. THOMASON, Charlotte, N. C.

Warehouses: Charlotte, N. C.—Greenville, S. C.—Atlanta, Ga.—Providence, R. I.—Detroit, Mich.—Chicago, Ill.—St. Louis, Mo. *Works:* Newark, N. J.

***NON-FLUID OIL** is not the name of a general class of lubricants but is a specific product of our manufacture. So-called fluid grease imitations of NON-FLUID OIL often prove dangerous and costly to use.*

beaters that have given good results for 1½ years.

SPINNING. 1. How successful is combination wind on your 25s or heavier yarn, Barber-Colman spooled?

Mill A: Running combination-wind 20s yarn, 2-in. ring.

Mill B: Running combination-wind 16s yarn, 2-in. ring.

2. How is the overhead cleaned in the different mills?

Mill A: Overhead cleaned once per week with brush and mop; lights cleaned twice per week.

Mill B: Air cleaning once per week overhead.

Mill B: Air cleaning once per week overhead.

Mill C: Air cleaning twice a week on frames and once overhead.

3. Should underclearers be used with Saco-Lowell long draft?

Mill A: Yes.

Mill B: We have Whitin system and don't use underclearer.

Mill C: Clearers helped quality.

4. Should the slip rolls be picked when the frame is running or when it is stopped?

Mill A: When stopped.

Mill B: Use mechanical picker.

Mill C: Clean while running.

5. What formula do you use to determine the amount to draft?

Mill A: Drafts one inch to each ⅞ in. of cotton staple.

Mill B: Drafts average of 16 on 20s.

6. Are any mills using the solid-creel method in spinning?

Mill A: Uses on very high-quality filling.

Mill B: No.

Mill C: No.

WEAVING. 1. What is the largest filling package that is practicable to run on loom built for 1⅞ x 8-in. bobbin?

Mill A: 1¾-in.

Mill B: 1¾-in. on rayon.

2. At what distance from fell of cloth should harness be levelled when running 69-in. and 79-in. sheeting on 90-in. loom in order to prevent kinked or slack filling?

Mill A: 2¼ to 2½ in.

Mill B: 2½ in. maximum.

Mill C: 3 in. maximum without conditioning machine.

3. Has anyone had experience running 22s filling for sheeting without conditioning it?

Mill A: Yes. Tests now underway to determine results which apparently are not much different from conditioned filling. Filling boxes set back in room with a 56 to 60% r.h. No change in seconds. No change in twist multiplier or in furring of shuttle.

4. What is the best speed to run a 40-in. E-Model loom on 96 x 68 spun-rayon fabric, with 40s warp and filling?

Mill A: Changed from 172 p.p.m. on fairly similar construction to 160 p.p.m. because of loom upkeep and seconds.

Mill B: 160 p.p.m.

5. What is the largest filling package practicable to run on loom built for 1¼ x 8¾-in. bobbin?

Mill A: 1⅜-in.

Mill B: 4-oz. package.

Mill C: 1⅜-in.

6. What is your experience with Pregwood picker stick on E and XL looms?

Mill A: On box looms, Pregwood sticks lasted 11 to 12 months, as compared with 2 weeks on hickory stick.

Mill B: Couldn't get the Pregwood stick to take screws.

Mill C: Have dozen looms now running on test.

Mill D: Running test, but sticks appear too flexible.

Mill E: Had difficulty with initial installation; the new sticks were then made more "streamlined" for the job; result is that we use one Pregwood stick to every 17 hickory sticks formerly used.

7. What is the best method to keep whip rolls turning on E and XL looms and not get oil and grease on warp and cloth?

Mill A: Use oilless bushings

Mill B: Place cloth around stand to keep oil off and then blow off assembly.

Mill C: Use sealed roller bearings.

8. At what relative humidity do you get best results on sheeting?

Mill A: 84 to 86%.

Mill B: Same.

Mill C: Same.

9. What is best dressing to use on shuttle to improve life and condition?

Mill A: 20% Japanese wax and 80% tallow applied once a week.

Mill B: Same.

Mill C: 50% banana oil and 50% shellac applied to shuttles once a week; shuttles also tallowed once a week.

Questions from floor: 1. We are running X-2 looms on 40-in. herringbone weave at 195 p.p.m. What speed is recommended?

Mill A: 184 p.p.m.

Mill B: Same.

2. Does anyone have suggestion to reduce setmarks when running heavy twill weaves of cotton or rayon?

Mill A: Cut a piece of pipe to fit loosely over the press roll that is in front of the sand roller. Cover this pipe with sand-roller cloth. Its use on 40-in. E-Model looms reduced setmarks.

MAINTENANCE. 1. In using dry-cleaning system, what floor seal do you use?

Mill A: Tennant seal along with the same for floor maintenance. Apply seal with mop, let set for 15 min., then cover with wood shavings to pick up excess seal. We use magnetic sweeper to pick up travelers.

Mill B: Same system.

Mill C: Oil-resistant paint under the frames; floors first cleaned with Varsol.

2. What kind of pipe and fittings have you found best suited for open steam coils in size kettles? What is the experience with copper and stainless steel?

Mill A: We have both. Prefer brass and copper from standpoints of speed and ability to hold heat, but stainless steel holds up longer. Rayon appears to have corrosive effect on stainless. Our trouble with brass is that holes in pipe tend to get larger with use; dye-tubs brass pipes held up for only 6 to 12 months before holes became too large. Now using Grinnell pipes that have been in operation about three years.

3. What type system do you use for drinking fountains in mill?

Mill A: We are going away from circulating-water central-cooling system because pipes have to go too far and two pipes are required.

Mill B: Individual fountains are less expensive.

Mill C: We find individual fountains difficult to clean and blow out. Water gets on floor, and lint collects under fountain. The water seems to be caused by varying water pressure.

Mill D: A copper drip stand extending about six inches around fountain prevented trouble with our individual fountains.

Mill E: Individual system requires 10 to 20% spares because the fountains seem to quit cooling in hot weather.

4. Do you use any cleaning or degreasing method on machinery?

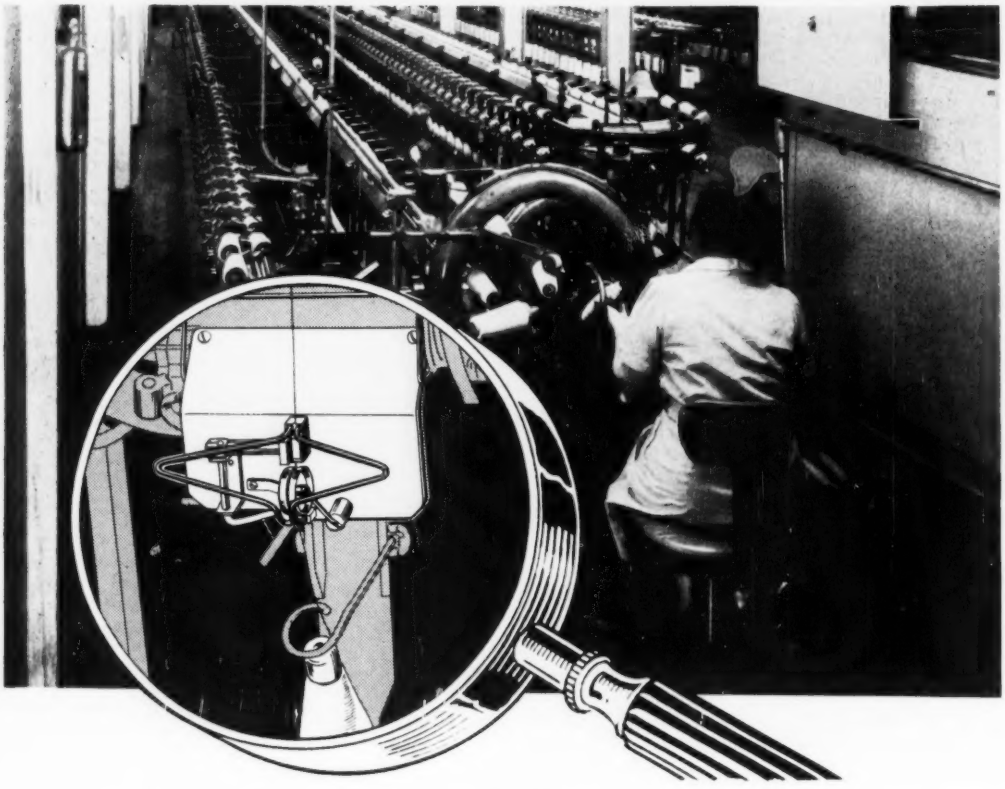
Mill A: Live steam which cleans well but leaves puddle of condensation around loom.

Mill B: Parts are soaked in vats of Varsol for two to three hours. This cleans them well.

Question from floor: 1. Our rayon tint comes in powdered form that is mixed in a stainless-steel hopper, then put in wooden drums for transport to pickers. The corrosive tint causes drums to leak, and the wood will not hold up during the moving. Tint runs out on the floor. We find stainless steel and copper drums too costly.

Suggestion from floor: A copper reservoir to be installed above the picker and the tint fed by gravity.

The NEW Sliding-Block SLUB CATCHER



THE Abbott Machine Company has developed a new type of slub catcher called the "Sliding-Block." This new type slub catcher has been especially designed for Abbott circulating automatic Cone and Tube Winders.

When the machine is in operation, the sliding-block slub catcher on each Winding Unit is opened and blown out automatically after each bobbin is wound, or oftener if necessary.

The sliding-block slub catcher is accurate to 1/1000th of an inch and can be quickly and easily replaced with any desired size. Of great importance is the fact that the slub catcher is foolproof.

The spacing is built into the block in such a manner that it cannot be altered while in operation, nor can it be kept open purposely to increase production at the expense of the quality of the yarn. Mills that have been using this new Abbott sliding-block slub catcher all report that it is an outstanding contribution to the winding field for improving yarn quality.

Write to us now for further information

ABBOTT MACHINE COMPANY
FACTORY AND MAIN OFFICE
WILTON, NEW HAMPSHIRE
SOUTHERN OFFICE: GREENVILLE, SOUTH CAROLINA

PRE-SHRINKING AND REWINDING are recommended for nylon to be used in combination yarns.

Some Newer Combinations

75-den. acetate and 20-den. nylon
100-den. acetate and 30-den. nylon
120-den. acetate and 30-den. nylon
55-den. acetate and 40-den. nylon
50-den. viscose* and 20-den. nylon
50-den. viscose* and 30-den. nylon
50-den. viscose* and 40-den. nylon
75-den. viscose and 30-den. nylon
50-den. viscose and 50-den. nylon

*High tenacity.

NYLON COMBINATIONS
Are Not Hard to Throw

HIGHLIGHTS: *Pre-shrinking of nylon is new step—Regular conditioner can be used—Most combinations are with acetate—Tensions are critical.*

BY S. J. MILLER

NYLON YARNS AND COMBINATIONS of nylon with acetate, rayon, and silk are rapidly gaining wider uses in weaving. Some of the popular combinations are 20-den. nylon with 75-den. zero-twist acetate and 30-den. nylon with 120-den. zero-twist acetate. These combinations are used with a 75/50 bright acetate warp.

Other nylon fabrics are made with 50-den. yarn with 10 turns in the warp and 2-ply 50-den. yarn for filling. (Some fabrics use 70-den. 20-turn yarn in the filling.)

When nylon is used in a combination with another yarn, the nylon is pre-shrunk or relaxed before plying.

The nylon yarn is reeled into 44-in. skeins of approximately 3 oz. each. The width of the skein is 3 in.; number of tie bands are four, evenly spaced; and the number of interlacings four. The reeling speed is usually 350 yd. per min.

After reeling, the skeins are ready to be pre-shrunk or relaxed. The several methods used employ hot water, live steam, or a regular conditioning box such as for setting twist. The most satisfactory method found is the one using the regular conditioning box, set for 205° F. dry bulb and 203° F. wet bulb.

The skeins are placed on stainless-steel rods, straightened out, and are hung straight down. The poles are placed on a truck to go into the conditioning box. The poles are placed 2 in. apart, and the skeins are placed 1 in. apart.

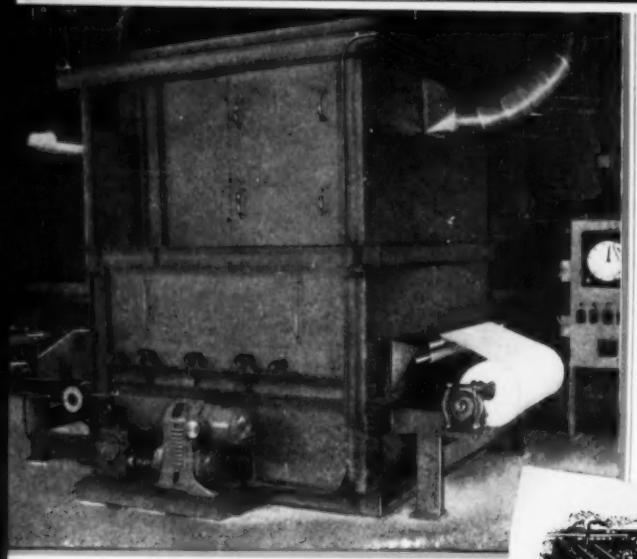
After the conditioning box is brought up to the temperatures desired, the truck containing the skeins is placed in the conditioning box for 30 min. The box is opened after the first cycle of 30 min., the skeins are turned upside down, and they are returned to the box for another 30 min. The cycle is 1 hr. When the cycle has been completed, the skeins are placed into a box and allowed to set for 3 hr. at room temperature before the next operation. To determine the amount of shrinkage, which should be around 9%, the skeins can be measured before and after pre-shrinking.

Regular skein winders, having the self-adjusted wire swifts, are used for winding the shrunk skeins to bobbins. (Illustrated are wooden swifts which can also be used.) The average speed is 140 to 150 yd. per min., and it is preferable to run a skein to a spool. The tension should average 8 to 10 grams. A fast traverse is desired on any nylon yarn which has not been sized and oiled.

PLYING. For plying nylon and acetate yarn, regular doubler-twister machines are used. If the acetate is supplied on a cheese, it is placed on a wooden plug, which is on the jack pins of the doubler-twister. A metal cap is placed inside the core of the cheese tube, so that the acetate end will not come in contact with any rough surfaces. The end is then drawn through a pigtail guide which is fastened to a bar that extends the entire length of the machine. The end is then drawn through a disk to give the desired tension.

The spool containing the nylon is placed on the jack pin, and the yarn is drawn straight down. The nylon and acetate ends are placed in the faller-guide eyes, which control the

(*Continued on page 194*)



Van Vlaanderen Nylon Heat Setting Machine in actual plant operation.

This is the new

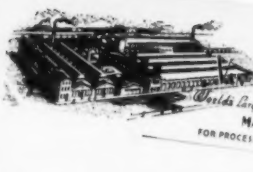
VAN VLAANDEREN NYLON HEAT SETTING MACHINE

IT'S DONE WITH BALANCED-FLOW, HEATED AIR. That makes the Van Vlaanderen Nylon Heat Setting Machine different—and, we believe, better.

CIRCULATED, HEATED AIR, permeating every fibre of the goods, uniformly and instantaneously effects setting—without any part of the machine or goods ever exceeding the setting temperature. This method results in better set fabrics; stable in dimensions, free from sagging, shrinking or stretching and having great resistance to wrinkling.

CIRCULATED, HEATED AIR permits simpler design and easier, more reliable control; less possibility of mechanical failure and (of great interest to the finisher) lower initial and operating costs.

CIRCULATED, HEATED AIR is, in our considered opinion, the most satisfactory of the various methods of heat treatment.



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An invitation to nylon dyers and finishers

Before buying a Nylon Heat Setting Machine you are invited to see this new and entirely different machine operate under actual plant conditions. Because there is only one source of heat and only one set of controls, operation is simple, direct, trouble-free and temperature can be held within close limits.

Waiting time is minimum when starting the machine. Setting temperature of fabric is effected almost instantaneously on entering machine.

There are many other advanced features designed into this machine. Why not see it yourself now? I will be glad to hear from you.

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C. H. Van Vlaanderen

President

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World's largest manufacturer of machines for processing modern fabrics

Some of the Requirements of a Good Interview

1. Establish your courtesy and friendliness with your opening remark.
2. Make the applicant comfortable.
3. Try to avoid making applicant wait.
4. Show appreciation of applicant's interest.
5. Give full information about the job, rate, hours, working conditions, company policies, and supervisor's expectations.
6. Be willing to consider fully applicant's statement of qualifications.
7. Ask questions to draw applicant out about himself.
8. Encourage questions from applicant.
9. Answer his questions without evasion.
10. Show respect for applicant's beliefs and individuality.
11. Make no promises unless you fully intend to keep them.
12. End interview on a pleasant note.

The Supervisor Must Be A Skillful INTERVIEWER

HIGHLIGHTS: *Impression of first talk with new employee lasts for years —Successful interviewing requires forethought and self-control—Respect for the new man's personality will engender his respect for supervisor.*

By HUDSON NIX*

IN SAYING GOODBYE to a retiring supervisor for whom he had worked many years, I recently heard a worker emphasizing the importance of the retiring supervisor's first interview with him.

"I remember our first talk when I was hired twenty years ago," he said. "I remember many of the things you said, but most of all I remember the way you made me feel—that you were hiring, not only my hands, but also my judgment, sense of humor, and responsibility. You certainly got me off on the right foot with the company."

How many supervisors realize that his first talk with an employee may be remembered for twenty years? That the employee will get a definite impression that will last, even though it may be the wrong impression? That this impression—right or wrong—may have an important bearing on the employee's efficiency and attitude during his entire employment with the company?

The first talk a supervisor has with a new prospect for a job, an employee transferred to his department, or even a regular employee returning from furlough, cannot be over-emphasized.

The supervisor is not relieved of interviewing responsibility even in a plant where the personnel office assumes the entire responsibility of selecting new employees. The general and line supervisors have all-important parts in the new employee's adjustment, the attitude he assumes, and the beliefs he develops in his new environment. Their success in this role is practically assured if they know and make full use of correct interviewing techniques, and follow up the interview with sound supervisory methods.

A good interview does not just happen. Immediate likes or dislikes, getting off on the wrong foot, or "hitting it off" immediately are not situations that just happen. They are largely influenced by the soundness and care with which the first interview is conducted.

The full purpose of the interview should be brought to mind when the supervisor extends his hand to the new applicant or employee. The interview should inform and explore; it should establish understanding and confidence. It should be business-like, yet warm and friendly. It must avoid bluffing, irritation, subterfuge, evasion.

In the ideal interview, the supervisor imparts information about the job, rate, hours, working conditions, company policies, and his own expectations in a manner that gives the new employee all the information he needs about the job *and* the supervisor to begin work with confidence. Likewise, the employee is encouraged to relate his training, experience, and rating of former supervisors in such a manner that the supervisor can derive valuable information about the type of training and the method of handling the new employee will require.

ERRORS. Perhaps the most serious and most common error made by supervisors in interviewing new employees is the practice of appearing "hardboiled," of "letting the new man know from the start who's boss," and other fear tactics discarded by progressive ox-cart manufacturers generations ago. This attitude is understandable because the supervisor is closest to the day-to-day absentee, quality, and rule-infraction problems.

Consider, however, what attitude this spirit is likely to encourage the new employee to assume. Emphasizing too strongly the penalties involved in absenteeism, errors, etc., makes the new man think he's been sized up as one who will be guilty of such if he is not watched and warned. This wrong emphasis may affect his feeling of self-confidence, and may inspire conscious or unconscious antagonism toward the new supervisor.

Good attendance, quality consciousness, and exact procedure-following can be explained in a manner that em-

(*Continued on page 203*)

* This article is based on a special study by the author and on 16 years of textile-mill experience, the last eight of which have been as Employment Administrator of the Rome, Ga., plant of Celanese Corp. of America.

Wool Oils Compared in Tests at Textile Institute

SOCONY-VACUUM has recently completed extensive laboratory-controlled tests of wool oil performance on woolen mill equipment of production size. In these tests, three Socony-Vacuum products, and three widely advertised competitive "self scouring" wool oils were compared in terms of fly loss, yarn strength and weight, fulling characteristics, and scourability.

It is a source of considerable pride to Socony-Vacuum that the data acquired in these tests indicate its new product, S/V Woolrex SS, to be a superior fiber lubricant in terms of fly loss and uniformity of yarn strength and weight, while, at the same time, S/V Woolrex SS is indicated to be a thoroughly satisfactory material in terms of fulling performance and scourability.

The factual data resulting from these tests were obtained through contract work with the Wool Department of the Lowell Textile Institute. The samples of wool oils used to process the wool in these evaluations were submitted to the Institute by Socony-Vacuum, and the processing machinery was operated by trained Institute personnel.

★ ★ ★

The data from the Lowell Textile Institute tests, and details of the procedures and equipment used, have been compiled as a Technical Bulletin that is available on request. Write to Socony-Vacuum, Chemical Products Division — or call your local Socony-Vacuum representative.

Process Products
SOCONY VACUUM

Socony-Vacuum Oil Co., Inc.
CHEMICAL PRODUCTS DIVISION
26 Broadway, New York 4, N. Y.

BETWEEN HILL AND BATES DIVISIONS are an 8-in. high-pressure steam main and a 3-in. condensate return line. (Bates is at left.)

A 6-IN. HIGH-PRESSURE STEAM MAIN and a 2-in. condensate return line run between Hill and Androscoggin Divisions.

Outdoor STEAM MAIN Replaces Two Boiler Plants

HIGHLIGHTS: *Only 2.8° F. temperature drop, 5 psi. pressure loss—Magnesia insulation varied with pipe and location—Unit in operation for year—Old boiler houses stand by.*

By JOHN MURPHY
Chief Engineer, Bates Mfg. Co.

IN THE SPRING OF 1947, a study of the steam-generating equipment in our Bates, Hill, and Androscoggin divisions, Lewiston, Me., was made. The study revealed that 12 boilers and two water heaters and feed pumps were 37 years old. It indicated also that greater efficiency and economy would result by supplying steam for the three divisions from one boiler plant.

When the report of this study was presented to the president and directors, they decided to install new steam-generating equipment of the most modern design and a complete steam main that would link the three mills to the new generating equipment. The latter consists of two 50,000 lb.-per-hr. B&W FF16 units, equipped with Detroit spreader stokers, coal conveyors, boiler feed pumps, ash-evector system, and modern combusion-control equipment.

The new units, designed to generate steam at 200 psi. and 388° F., and the new main steam line were put in operation over a year ago. Approximately 75% of the new steam main is located outdoors, and to date it has proved very satisfactory. At present, the steam is used for slashing, dyeing, and finishing of cotton and rayon fabrics.

The old Hill and Androscoggin boiler houses are connected with the steam main but are not in operation.

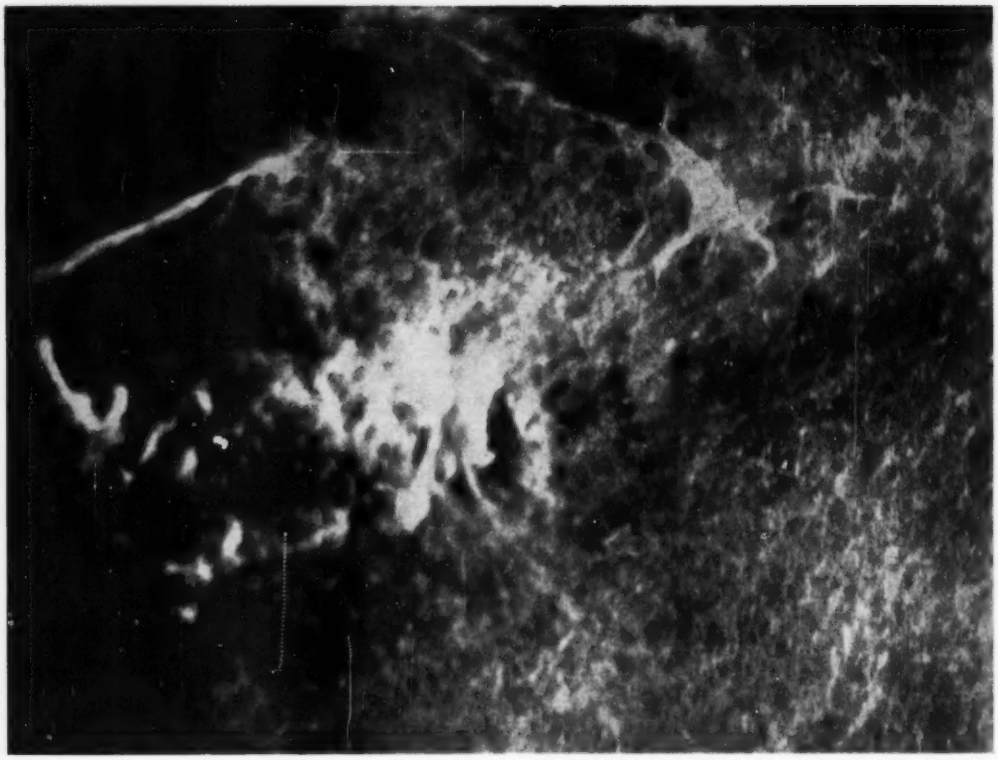
The distribution main originates in the Bates division boiler room in the form of a 10-in. line connected to the boiler room 12-in. main. The 10-in. main runs across the Bates division area, a distance of some 875 ft., with take-off lines supplying the various operations. It reduces in size to an 8-in. line and continues on to the adjoining Hill division and across the division area for a distance of some 622 ft. A connecting line joins the 8-in. main to the main steam line in the Hill boiler room.

The 8-in. main reduces in size to a 6-in. line as it leaves the Hill division. The 6-in. line runs across a recreation field for a distance of 1,230 ft. to the

(*Continued on page 206*)

INSULATION THICKNESS

Pipe	Diameter (In.)	Location	Thickness (In.)
High-pressure steam	10	Outdoors	3 1/2 85% Magnesia
High-pressure steam	10	Indoors	2 1/2 85% Magnesia
High-pressure steam	8	Outdoors	3 1/2 85% Magnesia
High-pressure steam	8	Indoors	2 1/2 85% Magnesia
High-pressure steam	6	Outdoors	3 1/2 85% Magnesia
High-pressure steam	6	Indoors	2 5/16 85% Magnesia
Condensate steam	3	Outdoors	2 5/32 85% Magnesia
Condensate steam	3	Indoors	1 1/32 85% Magnesia
Condensate steam	2	Outdoors	2 5/32 85% Magnesia
Condensate steam	2	Indoors	1 1/32 85% Magnesia



An example of Lenzites trabea—a common mold magnified seventy-four times.

Stop Sacrificing Profits to Mold!

Mold eats its way into the profits of many textile manufacturing processes. For instance, sizing materials held in solution for any length of time are subject to the costly attack of mold and decomposition.

Stop sacrificing your profits to mold with Dowicides, Dow's industrial germicides and fungicides. Dowicides are regularly used by many leading textile mills to stop mold and decomposition in sizing solutions and in many other plant processes.

Learn more about these amazing industrial germicides and fungicides today. Just contact your nearest Dow office or write direct to Midland. Dow's complete laboratory facilities are available to help you solve your problem.

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Industrial Germicides and Fungicides

***HAVE YOU TRIED*—DOW'S NEW FUNGICIDE, COPPER 3-PHENYLSALICYLATE?**
Laboratory and field tests show copper 3-Phenylsalicylate to be an outstanding textile preservative . . . nonirritating, odorless and easily applied. Soluble in a variety of organic solvents, it can also be applied by two-bath and emulsion procedures. Write for sample and descriptive literature.

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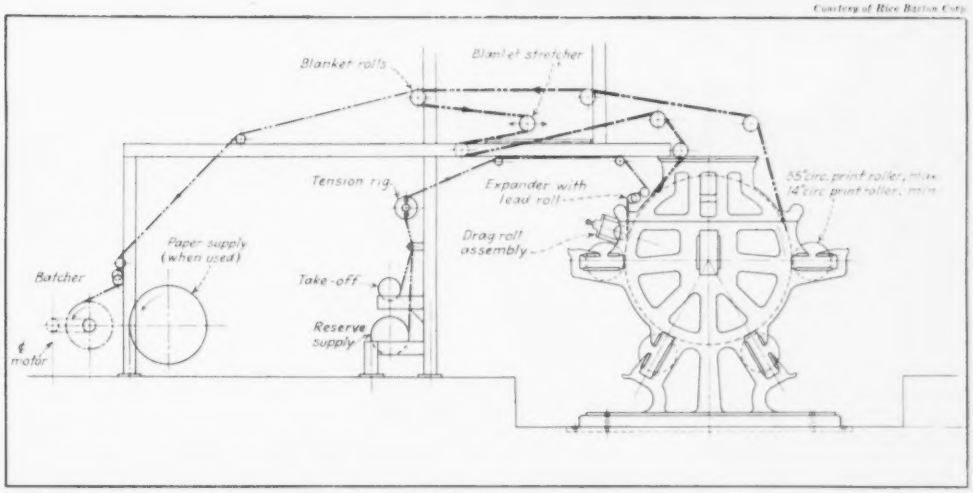
CHEMICALS INDISPENSABLE TO INDUSTRY AND AGRICULTURE

Courtesy of Rice Barton Corp.



TYPICAL VINYL-FILM PRINTING RANGE *sketched here includes a printing machine having a 79-in.-diameter cylinder to allow a drying space of almost 4 ft. between nips.*

INTAGLIO PRINTING
Superior for Vinyl Film

HIGHLIGHTS: *Single-cylinder roto-intaglio machine gives very little distortion—Roller printing can give as artistic effects as screen printing—72-in. widths now available*

By D. C. McGIEHAN

MOST VINYL FILM is printed on the same type of single-cylinder roto-intaglio printing machine as is used for printing textiles, chiefly because this type of machine had been found most practical for handling similar materials, such as oil cloth and sheet rubber. There is little distortion of the film in passing through the machine when it is laid on a large central cylinder with the printing nips arranged around it.

Printing on vinyl film has developed into a rather specialized science. Film printers are learning fast. At first, a few textile printers led the way in printing vinyl, but by now the greater amount of film is printed by concerns that specialize in the work.

MACHINES. Rotogravure-type machines are less suitable to printing film than are the textile-type machines. The reason for the preference for the textile-type machine is that on the rotogravure-type machine the lead between nips is so long, usually about 12 ft., that it is difficult to maintain register, or "fit," of pattern. However, film is being printed on rotogravure machines in as many as four colors.

Screen printing does not produce any more artistic effects than roller printing. In fact, the method is really only outstanding for printing motif patterns on cutouts used for beach toys and the like. Roller printing, with photoengraved rolls, produces very artistic effects.

The transfer method of printing is valuable in that a transfer medium which is firmer than film is printed first; it is easier to maintain register in the case of printing a firm material than a stretchy one. This method is necessarily a part of the total scheme of producing film by coating the transfer medium with vinyl-resin solution and then stripping after setting—in other words, using the casting process.

CALENDERS Film 72-in. wide has become very popular. There are several concerns possessing calenders that turn out this finished width, and a larger number that have printing machines capable of printing it.

(Continued on page 200)

About the Author

D. C. McGIEHAN is a graduate engineer who has been associated with intaglio printing for 24 years as technical representative of Rice Barton Corp., builders of printing machines; of Revere Copper & Brass, Inc., makers of print rolls; and in association with the many print works who are clients of these firms.

Mr. McGiehan wrote this material after reading the article on vinyl-film printing in the Sept., 1949, issue of TEXTILE WORLD. Said Mr. McGiehan: "Film printing is new, and consequently rapidly progressing. That which may be common practice one week is apt to be obsolete the next, since new and better methods are being discovered daily."

It's time you shackled this PROFIT THIEF!

He's the meanest kind of thief—sly, slick and vicious as they come—stealing profitable production from machines in plants all over the country. But he can be stopped!

Perhaps you haven't even suspected that he works in your plant. Yet, that may be the *very reason* that you should *make sure* that he isn't!

LOOK BEHIND THESE MASKS

Are you still scooping grease from drums to guns by the old-fashioned "hand and paddle" method—wasting time, wasting grease, risking grime and dirt? There's a profit thief at work!

You can save 3¼ man hours for every 100 lbs. of grease.

Are you lubricating machines by hand—the old time-wasting, risky, hit-or-miss way? Watch for *big* losses here!

You can save up to 23.9 man hours in applying each 100 lbs. of grease.

Have you ever counted the losses on "downtime"—production interruptions for lubrication, part failures or replacements due to faulty lubrication? Unmask this thief!

You can lubricate hundreds of bearings from one central point, with the correct lubricant, in the right amount—while machines continue to produce.

Now are you suspicious that a profit thief is working in your plant?

Remember, his disguise is "old time," hit-or-miss, costly lubrication methods that add to the growing costs of production.

There's one proved way to end this needless profit drain!

An Alemite representative can tell you in 10 minutes how Alemite Methods will simplify and better organize your lubrication procedures. He can show you how mechanized lubrication from "barrel-to-bearing" will increase your production and profits.

Call your Alemite Distributor on the phone. Or write to Alemite, 1888 Diversey Parkway, Chicago 14, Illinois.

ALEMITE

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Another Product of STEWART WARNER

MODERN LUBRICATION METHODS THAT CUT PRODUCTION COSTS

The Labor Union Monopoly Bites *ALL* Workers

What kind of government is it which:

. . . Prosecutes the Great Atlantic & Pacific Tea Company which it asserts handles about 6½% of the retail food distributing business as an illegal monopoly in restraint of trade, and

. . . Seeks to break up four big meat packing companies and make them into 14 companies, charging the four with being a monopoly in restraint of trade, but

. . . Makes no move whatsoever to apply the federal anti-trust laws to the exercise of virtually 100 percent monopoly control of labor in the coal industry, and the only slightly less complete monopoly control of labor in the steel industry?

The answer to that question is simple. It is class government of the most flagrant type, a government by which special privileges are dispensed without justice and to the great injury of all workers. It is the kind of government which will lead to the early sacking of the American enterprise system and the personal freedoms of workers.

In legal terms the explanation of this flagrant affront to good government is also simple. In 1932 labor union activities were given virtually complete exemption from the application of the federal anti-trust laws by passage of the Norris-LaGuardia Act.

continued on next page

When the Norris-LaGuardia Act was passed labor unions were relatively weak. Only about 16% of the nation's industrial workers were organized, only about 12% of the steel workers. About two-thirds of the coal miners were union members, but only half that number were paying dues. The country was in the depth of its worst depression. The unemployment of about one-fourth of the labor force made monopoly control by labor seem so remote as to be almost fanciful.

But after only seventeen years devoted to the promotion of labor union organization by the federal government, we have labor monopoly with us. In its power and scope it makes the alleged business monopolies being prosecuted under the federal anti-trust laws seem positively piddling. In its manners it makes the old-time business monopolists look like Lord Fauntleroys.

What is lacking, grievously lacking, is action by Congress; action to shape our federal anti-trust laws to take account of the labor monopoly that has become the dominant national force in our country today—a force that is leading to the loss of freedom of all workers.

Before labor monopoly is broken up, as it must be broken up if our economy is not to be permanently wrecked, other steps will no doubt be required. But one test more than any other will be the touchstone of the nation's determination to keep its economic and personal freedom. It is what it does to see that labor monopoly receives the same treatment under the federal anti-trust laws as any other kind of economic monopoly.

The purpose of the federal anti-trust laws is to break up monopoly and preserve fair competition in the United States. It is a fine purpose. The wisdom and fairness of its application in particular cases is often open to challenge. But in spite of bad administration every farsighted business man I know is a staunch defender of our national anti-trust policy.

At present, in the exemption of labor monopoly, we have a breach in that policy which, if not closed, will soon become fatal both to the policy and the enterprise system it is designed to foster and protect.

The main thing wrong today with Great Britain and indeed all Europe is that no effective anti-trust laws are in existence to protect the public from business and labor monopolies, to guarantee personal freedoms. No free economy in Europe or America can prosper as long as protected monopolies remain and flourish.

While your representatives in Congress are home with you talk to them about the special privileges now granted to labor union monopoly. You would serve your country well by finding out what they intend to do about it before it is too late.

President, McGraw-Hill Publishing Company, Inc.

TEXTILE Equipment NEWS

Electronic Protection Motion Raises Felt-Loom Speed 18%

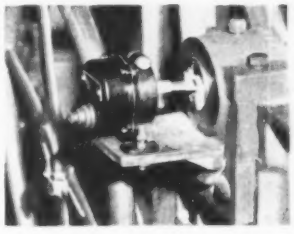
A new electronic-type protection motion eventually applicable to all looms has been developed by Crompton & Knowles Loom Works, Worcester, Mass.

Because of the need for other developments closely allied with this mechanism, its use, for the time being, is confined to wide felt looms. The device is said to be simple and foolproof in its operation. Harsh bang-offs and correspondingly high stresses of associated parts are completely eliminated. Picking is easier and checking more positive, thereby allowing substantial increases in loom speeds, the company states. One large mill has reported an increase in loom speed of 18%.

In the new device, a coil with a permanent-magnet core is imbedded into the lay with the top of the coil just slightly below the surface of the race plate. The permanent-magnet core causes flux lines to travel through air between its two opposite poles. If these flux lines are cut by a magnetizable material such as steel or soft iron, a voltage will be generated within the coils wrapped around the permanent magnets. This voltage will be proportional to the rate at which these lines are cut and the distance between the cutting body and the pole faces.

SHUTTLE PLATE. Accordingly, a steel plate is imbedded into the base of the shuttle as closely to the bottom of the shuttle as practical. It is not necessary that either the steel plate in the shuttle or the top of the pole faces of the detector coils be exposed to the air. These respective surfaces may be covered with any non-metallic covering desired. The shuttle has a fibre bottom, and the race plate can be of fibre or wood. The physical size of the plate will be determined by the strength of the coil and the air-gap distance. For large looms such as felt looms, where large air gaps are encountered, the plate may be 2 or 3 in. long, 1 in. wide, and about 1/16 in. thick. For smaller looms of the S, C, and W variety, this plate may be 1 to 2 in. long, 1/2 to 3/4 in. wide, and 1/16 in. thick.

As the shuttle races back and forth across the lay, a voltage pulse is generated each time the plate imbedded in the shuttle passes over the coil. If the shuttle is too high, the voltage will be low since the air gap is greater. If the shuttle is away from the reed, the voltage will be low since the full area of the plate is not cutting the lines of flux. If the shuttle has no plate, or if the shuttle is not in the loom when it is started, or if the shuttle has been thrown out of the loom by a faulty pick, no voltage will be generated.



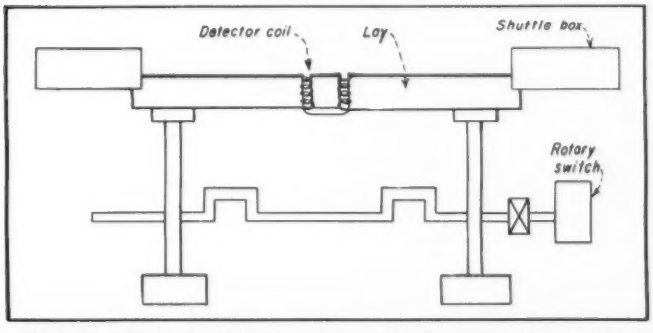
ROTARY SWITCH relates the timing of the loom to the position of the shuttle in the shed.

MAGNETIZED DETECTOR COIL generates voltage when shuttle passes over it correctly.

Operating in conjunction with this voltage pulse is a rotary switch connected to a constantly rotating shaft. In the case of the regular loom, this shaft is the crankshaft. In the case of the felt loom, it is the top shaft. The purpose of this switch is to tie in the pulse given by the shuttle with the proper timing of the loom.

A shuttle moving too slowly or too rapidly will also generate a voltage pulse. It is the duty of this switch to determine when a pulse is too slow or too fast and to reject any extremes. A compact switch having standard automobile breaker points and provisions for adjustment through 360° is used. This switch is relatively inexpensive and has the necessary life to meet the operation required on loom service.

OPERATION. The rotary switch has its contacts closed for about 320° of its total revolution time. During the other 40°, the contacts are open. If, at the time the rotary switch is opened, the shuttle does not pass over the coil, the

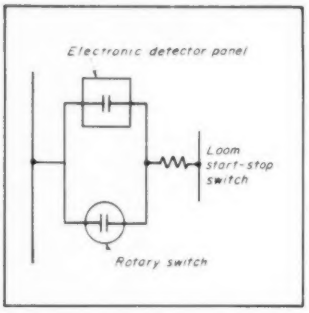


ELECTRONIC PROTECTION MOTION, as shown in this diagrammatic sketch, consists of detector coil in the lay and a rotary switch on the end of the crankshaft.

For More Textile Equipment News—

SEE report of exhibits at AATCC convention, page 109.

SEE report of Textile-Machinery Exhibition, Manchester, England, page 101.



CIRCUIT of the new protection motion is simple. Rotary switch is opened at instant that shuttle should be close to the circuit in the detector panel. If shuttle flight is proper, circuit will be closed when switch is open, and loom will continue to operate. If shuttle flight is faulty, detector-panel circuit will not be closed, and the loom motor will stop.

Why An Electronic Protection Motion?

By V. F. SEPAVICH

Engineering Research Supervisor
Crompton & Knowles Loom Works

In the successful operation of a modern loom, nothing imposes a more definite limitation on speed than the present mechanical form of protection. Extensive strain-gauge and oscillograph tests show that at speeds of 180 ppm., the time for stopping the entire loom at time of protection averages 0.007 sec. and frequently is only 0.005 sec. The stresses imposed upon a loom during this short time are over 20 times as great as those encountered during normal operation of the loom. Because of these high loads, parts must be made strong and heavy. Obviously, if loom speed were increased, the allowable time for protection would decrease, and the added mass of the strengthened members would actually make the loads at protection still greater. The only way to accomplish the desired result is to lower the mass and increase the time allowed at protection and thereby reduce the stopping stresses to much lower values.

Today's loom devotes a little more than one-half of its crank time to the travel of the shuttle. For fully 80% of the time that the shuttle is in motion, no attempt is made to find out if it is moving along at the proper speed. C & K has tried to develop a method of "clocking" the shuttle that can detect the progress of the shuttle while it is inside the shed, eliminating the necessity of waiting until the shuttle has actually cleared the shed before stopping the loom. Obviously, the detecting mechanism would have to have a very long life because of frequency of operation — the average loom today requires 1,000,000 operations per week. Also, it would preferably not be allowed to protrude into the shed because of the danger of marking the cloth or affecting the flight of the shuttle. The only device which seems to satisfy these conditions is electronics.

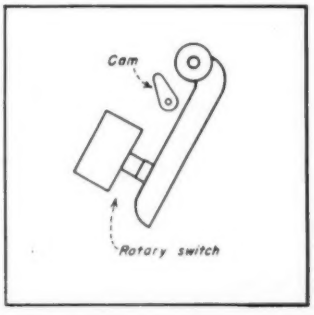
circuit will be interrupted and the loom will stop. If the shuttle does pass over the coil when the rotary-switch contacts are opened, the circuit will be maintained and the loom will continue to operate normally. Thus, if the shuttle does not pass over the coil on time, or if it is thrown out of the loom, or, if the electronic circuit does not operate because of a tube failure or a power interruption, the circuit will be interrupted and the loom will stop. This arrangement makes the circuit foolproof and "fail-safe" in its operation.

In normal loom operation it is impossible to have a shuttle move at exactly the same speed pick after pick. The shuttle may either be a little early or a little late. A loom must continue to operate under such conditions. It is only when these limits are exceeded that a loom should be stopped. In order to meet these conditions in the mechanical protection, the binder shape is altered or the length of the protection daggers is changed. In the electronic arrangement both of these conditions are taken care of, but the limits can be more easily set.

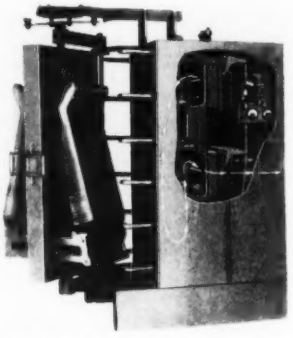
This explanation has been based on the use of one coil positioned in the center of the loom. If the loom is very wide and it is desired to "clock" the shuttle later in its flight, two coils, each located near the end of the shuttle travel may be employed. As the shuttle passes over both coils, a separate voltage pulse will result. However, one of these pulses will occur during the time the rotary switch is closed and will have no effect. The other pulse can be synchronized with the rotary-switch opening and will be used in the electronic protection circuit. This latter arrangement is employed on felt looms as wide as 540 in., while the single coil arrangement will be used on narrower looms of the C, S, and W type.

USE ON NARROW LOOMS. Because the indication of this type of protection is electrical in nature, it is also necessary to make the operation of the loom electrical. At the present time, only C&K's latest felt looms meet this requirement and consequently electronic protection has thus far only been adapted to this series of looms. When other needed developments have been concluded, then electronic protection may be available for narrower looms as well.

To request further information, please use the card on page C of the Reader Service dept.; refer to T-167.



CAM ON CAMSHAFT END opens and closes rotary switch in proper timing.



STOCKINGS STRIP FASTER from forms in this new boarding retort because they are dried in the chamber after boarding.

Boarding Retort Steam-Sets and Dries

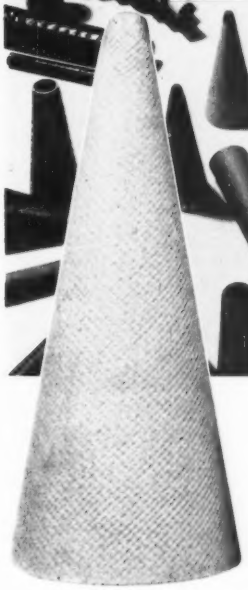
A new retort, Model 34, for preboarding or final boarding of women's hosiery, has been developed by Paramount Textile Machinery Co., 131 S. Wabash Ave., Chicago 3, Ill. The new retort is called Duomold because of the two-fold characteristics of the model, which both steam-sets and hot-air dries.

Hot-air drying takes place in the same chamber in which the goods are steam-set. During the steaming cycle, the air-circulating inlet and outlet openings are made steam-tight by two self-sealing louver doors. Immediately after steaming, these louver doors open automatically. Heated air is then circulated through the chamber by a centrifugal fan and a ½-hp. motor unit, quickly drying the stockings on heated forms. No vapor remains in the chamber to escape into the boarding room.

Compact, upright construction is designed to reduce floor space substantially. Capacity is 48 forms.

Stockings are said to strip and pile faster because they are thoroughly dried. Duomold insures smoother fin-

SONOCO NUTAPER 9° 36′ CONE



VELVET SURFACE

VELVET SURFACE
Scored, Dyed Tip and Base

LOW MARK SURFACE

HIGH MARK SURFACE
Scored

FOR COTTON HOSIERY YARN

To meet the varied requirements of a firm 6" traverse package for cotton hosiery yarns, the SONOCO

NUTAPER

Cone with its 9° 36′ taper is made available in a range of surfaces and colors that can be scored, dyed, printed and lacquer tipped to meet all yarn specifications as well as identification needs.

SONOCO PRODUCTS COMPANY

BRANTFORD ONT. | HARTSVILLE S. C. | MYSTIC CONN.

DEPENDABLE SOURCE OF SUPPLY

 For more information, write direct or use Reader Service post card.

ish and neater tops, the company states.

Simplified electrical controls and a minimum of moving parts favor maintenance.

A companion model, Duomold 35, designed for half hose and anklets made of filament and spun nylon, has 72-form capacity.

Duomold Models 34 and 35 are offered for delivery after the first of 1950.

To request further information, please use the card on page C of the Reader-Service dept.; refer to T-172.

RESISTANCE TO EMBRITTLEMENT is an outstanding feature of this new transparent wrapping for textiles. A new wrapping machine positions the printed design on each package and applies the wrappers.

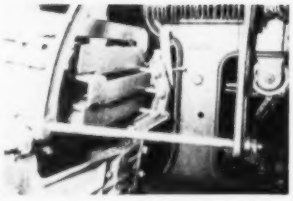
Transparent Wrapping Is Highly Durable

Tex-til-rap, a lamination of transparent, moisture-proof cellophane, employing a specially formulated laminating medium for transparent packaging of textile products, has been developed by Shellmar Products Corp., Mount Vernon, Ohio. The new wrap is said to possess the qualities of clarity, strength, resistance to embrittling, and heat sealability. Under extensive testing both in the laboratory and in actual use, the new wrapping is said to have met all requirements for packaging of textiles.

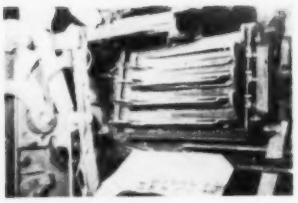
Coincident with the development of Tex-til-rap by Shellmar, the Hayssen Mfg. Co., Sheboygan, Wis., has placed on the market a wrapping machine which automatically applies printed Tex-til-rap from a roll and accurately positions the printed design.

The manufacturer reports that one large textile mill will introduce a line this fall in which every item will be packaged in this manner.

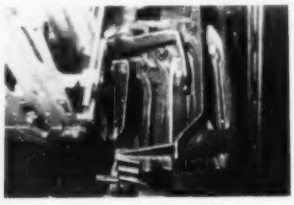
To request further information, please use the card on page C of the Reader-Service dept.; refer to T-177.



CAM AND LEVERS control horizontal movement of shuttle box.



CARRIER MOTION puts selected bobbin in position to transfer.



SHUTTLES slide out of the way at the time of transfer.

ELECTRIC FILLING FEELERS use supersensitive switches.

Pick-and-Pick Loom Is Automatic

A new pick-and-pick automatic loom has been developed by the Wm. H. Baker Machine Co., 15 Union St., Lawrence, Mass. After a number of years of experimenting, the loom is now ready for mill testing, the manufacturer states.

Four colors of filling may be used, so that it is possible to weave a fabric with a single pick from each shuttle. Up to the present time, fabrics of this type could only be woven on hand-fed or manually changed looms.

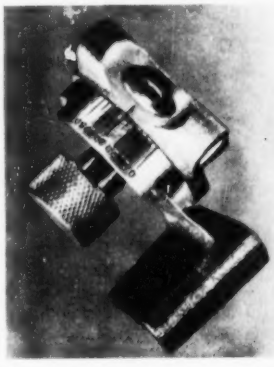
The transfer problems which has held up development of a pick-and-pick automatic loom has been solved by using a new-style shuttle box at the magazine side. Each of the four cells has a vertical and horizontal movement controlled by cams and levers. As the box lifts, the cells slide with a horizontal movement out of the way of the bobbin-changing mechanism. At a picking or transferring position, the box cell is always level with the race plate. A space is left free above and below for transferring and dropping the empty bobbin.

Transferring the depleted bobbin is accomplished by a carrier motion which takes the bobbin from the magazine to a transferring position.

A color-selecting motion actuates one of the four slides in the magazine so that the proper color of filling will be transferred.

Electric filling feelers and other electronic devices are used to actuate and simplify the different motions. A new filling cutter and holder also act as a safety device when the shuttle is not in its proper position ready to be transferred.

To request further information, please use the card on page C of the Reader-Service dept.; refer to T-171.



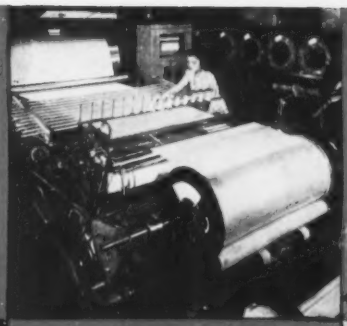
WASTE REMOVED at the mote knives in carding can be accurately controlled by this new mote-knife gage.

Gage Controls Mote-Knife Angle

A new gage for making accurate settings of the mote-knife angle to control the amount of waste at that point on cotton cards has been developed by Whitin Machine Works, Whitinsville, Mass. The gage is said to be especially useful in manufacturing plants making high-quality yarn, as it can accurately control the amount of waste removed by the mote-knives.

The gage is of sturdy construction and consists of a fitting plate that is

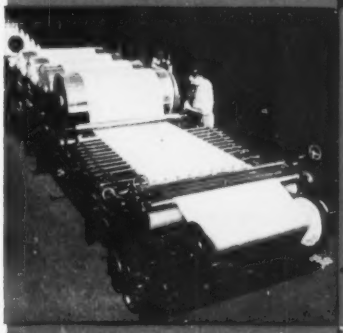
FIVE REASONS WHY LEADING MILLS CHOOSE JOHNSON SIZERS:



REASON No. 1

They give the most in quality and quantity of production, continuously over many years.

← Textron, Inc.

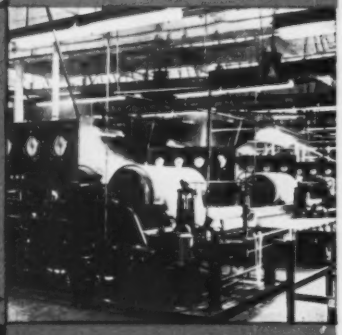


REASON No. 2

There is no useless elaboration in their design, and no weak points in their construction.

← American Viscose Corp.

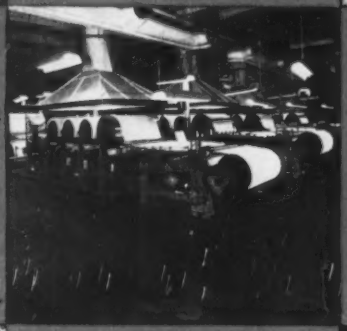
Hoosac Mills →



REASON No. 3

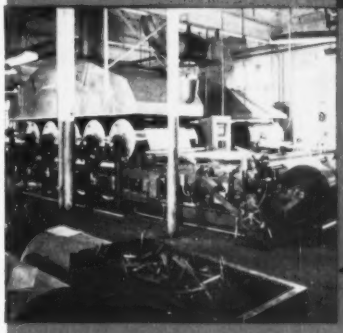
Automatic and semi-automatic controls assure successful operation and prevent shutdowns.

Robbins Cloth Mills, Red Springs →



REASON No. 4

The Johnson policy of fast service, when it is required, makes no exceptions.

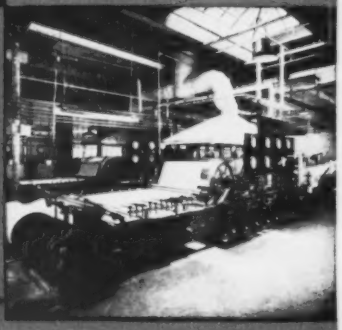


REASON No. 5

The mills that use Johnsons are the leaders in efficiency everywhere—here and in over 30 foreign countries.

← Gilt Edge Textile Mills

Peerless Mills Co. →



Charles B. Johnson

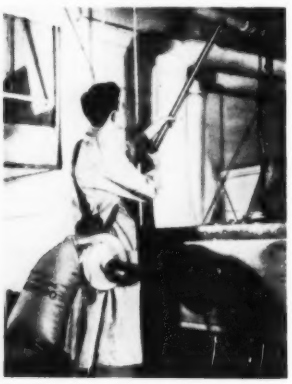
PATERSON, NEW JERSEY U. S. A.

placed on the edge of the mote-knife itself, a scale marked off from 0 to 60°, a small level, and a knurled tightening screw.

The gage is set to the desired angle; the tightening screw locks it in place. Then the fitting plate is placed on the mote-knife. The latter is moved until the bubble indicates the level position, and the knife is set by means of a lock nut in the holder stand.

The proper angle for the mote-knife should be determined by the mill through a series of tests on the stock being run. The angle also depends on the amount of waste to be removed. As the angle increases from the vertical, the amount of waste increases.

To request further information, please use the card on page C of the Reader-Service dept.; refer to T-166.



A PORTABLE VACUUM CLEANER is available in four sizes with weights ranging from 7 to 16 lb.

Vacuum Cleaner Is Completely Portable

A new and fully portable vacuum cleaner which can be slung over the shoulder to leave both hands free has been developed by Bruer Electric Mfg. Co., 5100 Ravenswood Ave., Chicago 40, Ill. The vacuum cleaner has a strong, powerful suction which makes it especially suitable for quick, thorough cleaning in close, confined places, and in places where larger industrial vacuum cleaners are awkward and hard to handle.

The Tornado vacuum cleaner is manufactured in four sizes, equipped with ¼-, ⅜-, ½-, and ¼-hp. motors with weights ranging from 7 to 16 lb. The cleaners have universal motors mounted on permanently sealed bearings which are said to require no greasing or oiling. Air intakes and suction openings are designed to secure a concentrated flow of air for cleaning which takes in from 53 cu. ft. of air per min. in the smaller models up to 86 cu.ft. of air per min. in the ¼-hp. size. A new-designed cast-aluminum motor housing eliminates excessive operating heat. The entire mechanism is fully inclosed in a lightweight, sturdy, streamlined, aluminum fan housing, designed to create maximum suction. The cleaner is supplied with 20 ft. of special heavy-duty cable which is connected to the machine by a patented strain release. The cleaner operates from any convenient electric-light outlet and is approved by Underwriters' Laboratories.

Standard equipment consists of the cleaner; a woven shoulder strap; a hose connector with 4 ft. of flexible, cotton-covered rubber hose; a flat fiber nozzle; an aluminum cleaning nozzle; a soft-hair brush; a dustproof bag; and a special molded-rubber nozzle to be attached to make the cleaner a powerful blower when the need arises.

Special attachments are available which make the portable vacuum cleaner useful for other purposes, as an insecticide sprayer, paint sprayer, etc.

To request further information, please use the card on page C of the Reader-Service dept.; refer to T-164.

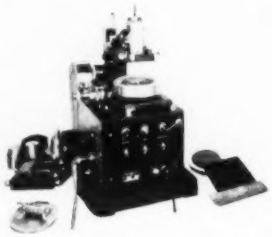
Cylinder Dispenses "Wetter Water" Penetrant

The Fire Hozzer, a cylinder for dispensing a penetrant which makes "wetter water" for fighting mill fires is available from Accurate Tool Co., Fire-Fighting Section, 15 Manufacturers' Place, Newark 5, N. J. The Fire-Hozzer cylinder can be loaded with Unox fire-fighting penetrant. One quart of the penetrant is said to provide 5 to 8 min. of fire-fighting with about 25 gal. of water. This amount of "wetter water" is said to be enough to knock out most any fire during its early stages. The design of the penetrant-holding cylinder also permits a plain water stream to be played on the fire after the penetrant is exhausted.

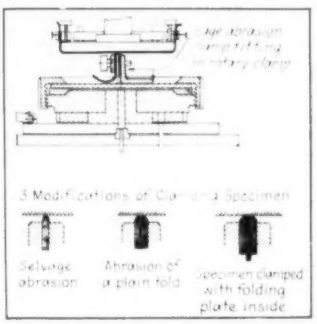
The Unox fire-fighting penetrant which makes the water "wetter" is said to put out fires two to three times faster than ordinary water. Only one-third as much water is required to extinguish the fires; thus damage to machines and smoke damage are reduced. In one test of extinguishing fires in cotton bales, 399 gal. of plain water were poured into one burning bale, and the fire was still burning. Only 15 gal. of water treated with Unox penetrant were needed to put out a fire of the same intensity in another bale.

To request further information, please use the card on page C of the Reader-Service dept.; refer to T-176.

Abrader Correlates Actual-Wear Data



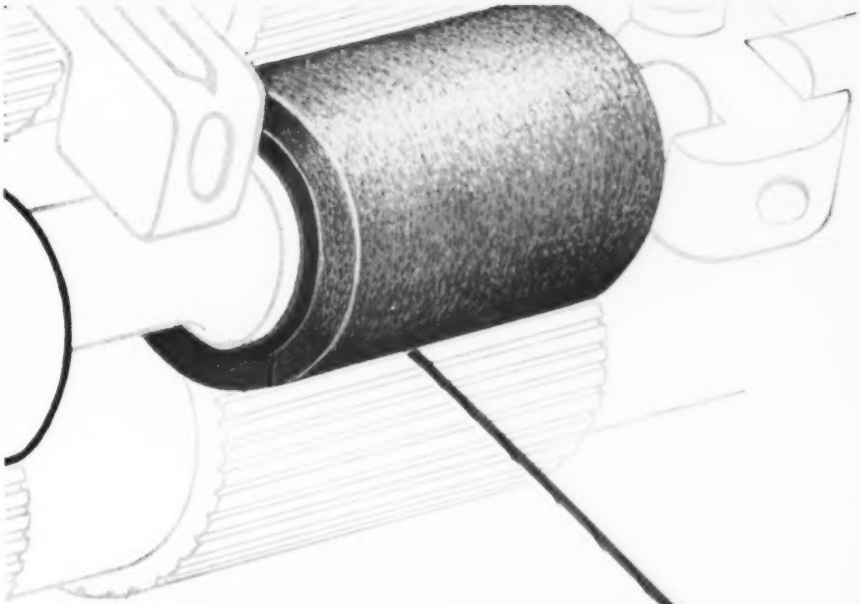
A NEW ABRASION TESTER for quantitatively measuring resistance to flat, edge, and flex abrasion under carefully controlled conditions has been developed by the Quartermaster Textile Materials Engineering Laboratory, and the Textile Section of the National Bureau of Standards. The new tester is said to produce macro- and micro-wear patterns which are the same as those obtained in actual wear. Materials tested in the machine are said to be abraded to an end point which is quantitatively defined and independent of individual judgment. A correlation has been found to exist between accelerated combat-wear data and the results obtained on the new tester.


3 Modifications of Clamping Specimen
Selvage abrasion
Abrasion of a plain fold
Specimen clamped with folding plate inside

THE TESTING MACHINE is adaptable to flat abrasion, edge abrasion, and flex abrasion. The new tester is fully described in Textile Series, Report No. 54, "An Improved Multi-Purpose Abrasion Tester and Its Application for the Evaluation of the Wear Resistance of Textiles," by R. G. Stoll. The report is available from the Office of Technical Services, U. S. Department of Commerce, Washington 25, D. C.

Nylon Textile Rope Has Long Life

Nylon rope for use on textile machinery, said to reduce shut-downs, to increase production, and to reduce



GREATER ECONOMY

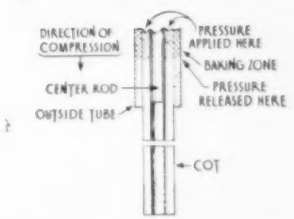
because Armstrong's Cork Cots are extruded

Armstrong's Cork Cots, made by the exclusive extrusion process, give you real spinning economy. They're low in first cost because the extrusion process is automatic. And because their molded surface is uniformly dense and seamless, Armstrong's Cork Cots give two to three years of front line service with most yarns. Compare this low cost and long life with your present roll covers and see why it is so much more economical to spin on Armstrong's Cork Cots.

You get this low-cost performance at no sacrifice in yarn quality. High friction cork grips fibers firmly to draft strong, uniform yarn. And there's no danger of eyebrowing because cork packs loose fibers well back on the clearers where they can't fall into the yarn. Armstrong's Cork Cots run cleaner, too. They reduce clearer waste as much as 50%.

These *extruded* cork cots can quickly prove themselves in your mill. Call your Armstrong representative and have him arrange for a test installation. Or write Armstrong Cork Company, Textile Products Department, 8312 Arch Street, Lancaster, Penna. These cots are available for export.

EXTRUSION PROCESS PRODUCES SEAMLESS CORK COTS



Armstrong's Cork Cots have no structural weakness to cause premature breakdown. Each cot is uniform in density from inside to outside, from end to end. Each compresses evenly, spins stronger, more uniform yarn.

Better running work . . . more poundage

ARMSTRONG'S CORK COTS

ACCOTEX COTS • ACCOTEX APRONS

 For more information, write direct or use Reader Service post card.

costs, is being made by Columbian Rope Co., 2130 Genesee Street, Auburn, N. Y. The nylon rope can be used on woolen mules or French worsted mules for rim band, draft and draw, tension, or squaring-in ropes. The rope can also be used on looms as Axminster needle rope, or as Wilton loom-knife rope. In actual installations, the nylon rope has been in constant use, and is said to have outlasted cotton ropes by 4 to 6 times.

Two types of nylon rope are available: stabilized filament-nylon rope, and stabilized spun-nylon rope. The surface of the spun-nylon rope is not quite so smooth and lustrous as that of the filament-nylon rope. The spun-nylon rope is also not so slippery, and is only 85% as strong as the filament-nylon rope. However, the spun-nylon rope will hold knots and splices more securely, and is easier to splice.

The stabilization process for the rope prevents fluffing and fraying of the individual rope strands when they are cut.

To request further information, please use the card on page C of the Reader-Service dept.; refer to T-162.

SIMPLIFIED SPEED CONTROL uses electronic circuit for changing speed and maintaining selected speed constant with varying loads.

Stepless Speed Control Useful on Small Motors

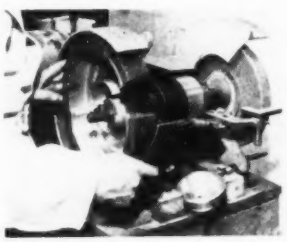
A new system for stepless speed control of fractional-horsepower motors has been developed by the Servo-Tek Products Co., 4 Godwin Ave., Paterson 1, N. J.

An economical electronic control system is said to be possible with the new simplified circuit without sacrificing desirable operating features. Operating from either a 110- or 220-v., 50 to 60 cycles, a.c. power source, the power unit utilizes full-wave gaseous rectification to supply both the armature and field of a specially designed, ball-bearing d.c. motor.

The magnitude of the voltage furnished to the armature is controlled by an electrical "brain" which reacts to change this applied voltage to correct for the slightest change in motor load, or upon instructions from the operator.

The control unit, which can be at a considerable distance from either the motor or the power unit, permits the selection of any desired speed over a range greater than 20-to-1 (80 to 1,800 rpm, is standard; other speed ranges available). The selected speed is maintained substantially constant from no load to full load. Also included on the control unit is an "idle" switch to start or stop motor without changing the speed setting.

To request further information, please use the card on page C of the Reader-Service dept.; refer to T-176.



STRIP ABRASIVES are used and can be easily replaced on this new split-drum sander.

Split-Drum Grinder Uses Strip Abrasives

Reductions in the cost of buffing, polishing, and grinding are said to be possible with the use of the new Con-Loc Drum Sander developed by American Diamond Saw Co., 519 N. W. Park Ave., Portland 9, Ore.

The sander is a balanced-aluminum split drum, cushioned with rubber. The halves of the drum are locked into a solid drum by a cone-type washer. Light weight makes the drum highly adaptable for use with a flexible shaft as well as on a stationary arbor.

Standard-width abrasives, available in roll form, are wrapped around the drum and secured into place by pins that recede out of the way when the cone washer is tightened down. During buffing, polishing, or grinding operations, the wheel is said never to lose diameter and never to need dressing. Abrasives in various grits can be quickly interchanged on the same drum to accommodate rough or fine work.

The sanders are available in sizes 6½- to 12-in. diameter and various standard widths and bores.

To request further information, please use the card on page C of the Reader-Service dept.; refer to T-175.

SISTER HOOK is held tightly to T-support by spun-in brads.

AlSiMag Sister Hook Available for Test

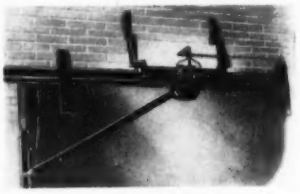
A newly designed sister hook has been perfected by American Lava Corp., Chattanooga, Tenn., and is being offered to textile mills on a test basis.

The new AlSiMag sister hook is made of a hard, homogeneous material, AlSiMag 192, or can be furnished in AlSiMag 193, an electrical conductor which eliminates static when properly grounded.

The hook is easily threaded; yarn can be fed at an angle. It is uniform in size and material. For economy in production, the hook is made in two parts and is accurately held on a metal T-support and clamped by tightly spun-in brads. The metal T-support can be of the design required for any application.

While the hook is not yet a tested product, it is being offered for practical mill tests.

To request further information, please use the card on page C of the Reader-Service dept.; refer to T-178.

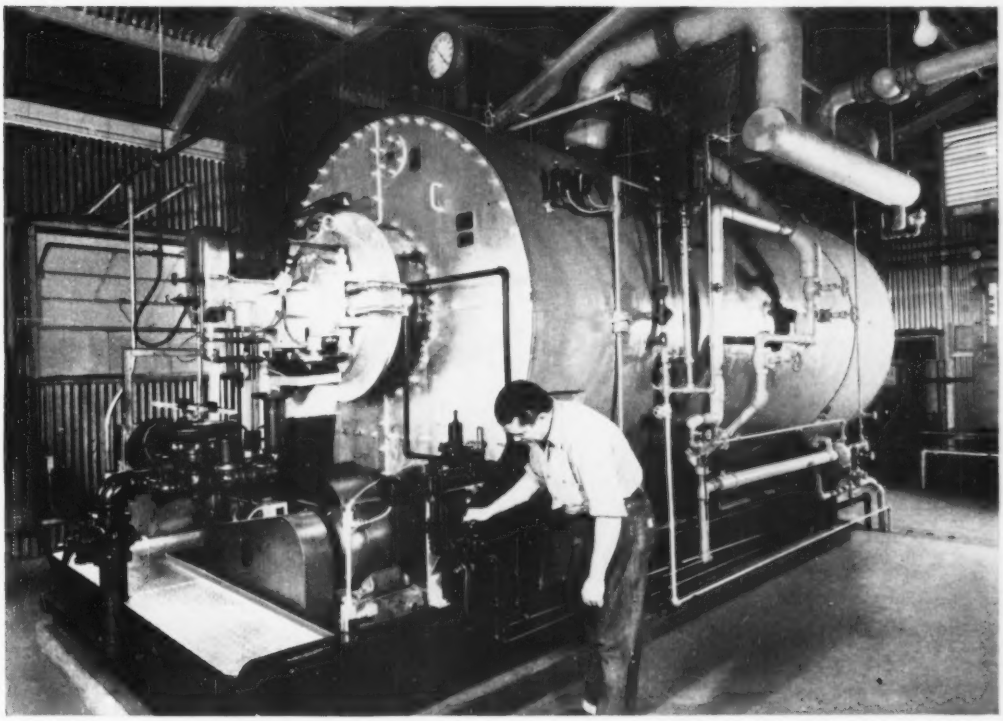


DELAYS IN PASSAGE OF TRUCKS and personnel through metal doors frequently used between departments in mills can be eliminated by using pneumatic door operators.

Pneumatic Device Operates Sliding Doors

A pneumatic operating device for opening and closing single sliding doors like those often used between mill departments is available from National Pneumatic Co., Rahway, N. J. Use of the device can eliminate or re-

Boiler HORSEPOWER Isn't Enough



Modern Boilers must have EARNING POWER, too

BECAUSE the cost of generating steam — for processing, production or heating needs — demands a substantial share of your operating budget, you can't afford to be complacent about your boiler.

If you want to cut fuel and maintenance costs, look to your boiler. Look beyond boiler horsepower ratings and rate your boiler in terms of its *earning power* for you — its ability to deliver steam at lowest cost.

For any boiler installation (15 to 500 HP.) — new or replacement — Cleaver-Brooks offers these immediate and long range cost saving advantages:

A Custom-Planned Boiler Engineered for Your Needs: Your steam needs and steam-using equipment are studied — your present total steam load plus your estimate of future expansion are considered — with this information the size of Cleaver-Brooks boiler best suited to your specific needs is determined.

Factory Starting Service: Your boiler is placed in operation by Cleaver-Brooks factory service-engineers. Your operators are trained in operation, care and maintenance.

Flexible Operation Burning Gas or Oil With Equal Efficiency: You can use oil, gas, or combination oil and gas, whichever is of lower cost. Through high heat transfer, Cleaver-Brooks boilers operate at a guaranteed efficiency of 80% from full load down to 30% of rating.

In addition, Cleaver-Brooks boilers give you clean, smokeless operation — eliminate fuel and ash handling — require no high or costly stacks — no special foundations — fit under low headroom—provide quick steaming, flexible operation to meet fluctuating loads — fully meet all codes.

Available in sizes 15 to 500 HP., 15 to 200 P.S.I. — write for Cleaver-Brooks steam boiler bulletin.

CLEAVER-BROOKS COMPANY
370 E. Keefe Ave., Milwaukee 12, Wis.

WRITE on your business letterhead for Steam Cost Calculator — a ready reference slide rule showing comparative steam costs when using oil, gas, or coal as fuel. Mailed on request—no obligation.

Cleaver-Brooks
STEAM BOILERS

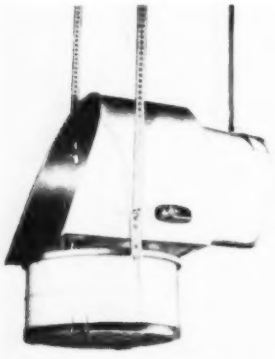
duce the effort required to open these heavy metal doors.

The controls can be placed at any distance from the doors so that the doors will be open when reached. Thus delays caused by manual door operation, especially when trucks are being passed through the doors, are eliminated. Use of the device also conserves heat and conditioned air by keeping doors closed when not in use.

The pneumatic door opener also isolates hazardous areas by keeping doors normally closed, and can be interlocked to prevent opening under unsafe conditions. The device can be interlocked with fire-detection equipment.

Installation of the door operator is said to be simple and easy, and maintenance requirements are said to be negligible. The mechanism is simply designed and requires no critical adjustment.

To request further information, please use the card on page C of the Reader-Service dept.; refer to T-168.



HUMIDIFYING UNIT requires only two simple connections, one to city water supply and one to electric current.

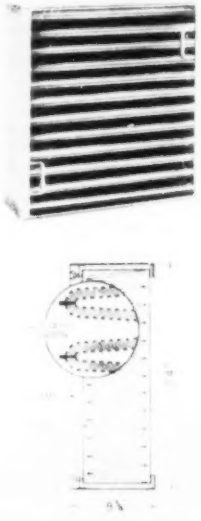
Humidifier Useful For Boosting Existing Systems

A new humidfying unit, designated Model 30, has been announced by Walton Laboratories, Irvington 11, N. J. The new model is designed to evaporate approximately 3 gal. of water per hour. Electrical consumption is reported to be about 230 w. per unit. The only connections required are to a city water supply and electric current.

Elimination of compressors, air or drain piping, and duct work is a feature of this line of equipment. The units may be used in multiple to provide uniform, controlled humidity conditions in an enclosure, or are suitable for spot humidification or for boosting the humidity obtained from existing systems of any type.

Complete and absolute diffusion of moisture with room air is claimed for this new model.

To request further information, please use the card on page C of the Reader-Service dept.; refer to T-173.



ACTIVATED CARBON is used as the filter element of this new cell-type unit.

Air-Conditioning Unit Has Cell-Type Construction

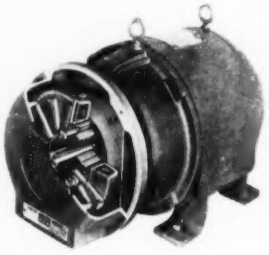
A new, self-contained, cell-type unit for air conditioning and ventilating systems has been developed by W. B. Connor Engineering Corp., 114 E. 32nd St., New York 16, N. Y.

This unit, with a capacity of 1,000 cfm., is known as the Type "C" cell. The cell has low air-flow resistance and is designed as a simple, effective air-purification device that can be installed and serviced with the ease and facility of a dust filter.

The accordion-pleat construction of the perforated filter element provides a filter-face area of 28 sq. ft. in a space of less than 3 cu. ft. This better than 9-to-1 ratio and an adsorption, or odor-holding capacity, of over 5 lb. of condensed impurities offer a comparatively high efficiency and economy. It is forecast that a service life up to three years is possible before reactivation of the carbon is necessary.

The "C" type cell requires no preliminary engineering design and minimum duct accommodations. The unit may be installed in multiple, in either flat or "V" arrangement.

To request further information, please use the card on page C of the Reader-Service dept.; refer to T-174.



BRAKING ACTION of this electric-motor brake can be adjusted over a wide range to suit machine requirements.

Motor Brake Gives Fast, Cushioned Stops

A new, disk-type electric brake developed expressly for electric-motor applications to give controlled, fast, smooth-cushioned stops has been introduced by Warner Electric Brake Co., Beloit, Wis.

The new brake is designed for mounting to a standard NEMA "C" Flange. The brake is a combination magnetic and friction type and is electrically operated. It requires only 25 to 35 w. of direct current for full application.

Braking action is said to start instantly when the current is applied. The brake utilizes not only ordinary friction, but also the power of electromagnetic attraction between its ring-shaped electro-magnet and armature disk.

Because the applied power varies with the flow of current through the magnet, the electric brake offers a wide range of application. Brake action may be controlled to a fine degree —manually or automatically—as machine-operating cycles require. Rectified power can be obtained from 100-, 220-, or 440-v. a.c. by using a simple low-cost conversion unit. Standard production sizes are available for mounting on NEMA standard motor frame sizes 203 through 365 inclusive. Larger and smaller brakes also are available for special motor mountings.

To request further information, please use the card on page C of the Reader-Service dept.; refer to T-170.

how synergistic action of SANTOMERSE No. 1 and TSPP pays off after desizing

When you send goods to the kier after desizing, synergistic action of Santomerse No. 1 and Monsanto Tetrasodium Pyrophosphate gives you a bonus of extra detergency and extra economy. Synergistic action is the cooperation of the two Monsanto products to produce higher detergency than the average of the two used separately . . . higher than either used alone.

This synergism is effective in removing minerals, natural waxes and foreign matter and holding particles in suspension so they cannot settle back into fabrics. Complete rinsing is easy. Goods come out in perfect condition for succeeding processes.

You get economy in two ways. First, you save in price because TSPP costs even less than economical Santomerse No. 1, therefore synergistic action gives you more detergency at lower cost. Second, you'll find economy in the small amounts that you'll use. For example, excellent results in the kier come from using one-fourth of one per cent of Santomerse No. 1, one-fourth of one per cent of TSPP and 4 per cent of caustic soda (based on weight of goods).

For information and quotations on Santomerse No. 1 and TSPP, contact the nearest Monsanto Sales Office, mail the coupon or write: MONSANTO CHEMICAL COMPANY, Desk F, Phosphate Division, 1780 South Second Street, St. Louis 4, Missouri.

DISTRICT SALES OFFICES: Birmingham, Boston, Charlotte, Chicago, Cincinnati, Cleveland, Detroit, Los Angeles, New York, Philadelphia, Portland, Ore., San Francisco, Seattle. In Canada, Monsanto (Canada) Ltd., Montreal.

MONSANTO CHEMICALS

MONSANTO CHEMICAL COMPANY
Desk F, Phosphate Division
1780 South Second Street, St. Louis 4, Missouri

Please send items checked. Data and quotations on _____ Santomerse No. 1, _____ TSPP.

Name _____ Title _____

Company _____

Street _____

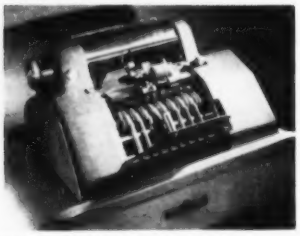
City _____ Zone _____ State _____

MONSANTO DETERGENTS AND WETTING AGENTS

- Santomerse® No. 1
- Santomerse No. 3
- Santomerse No. 3 (Paste)
- Santomerse 30X
- Santomerse D
- Santomerse S
- Sterox® CD
- Sterox SE
- Sterox SK
- Sterox 5
- Sterox 6

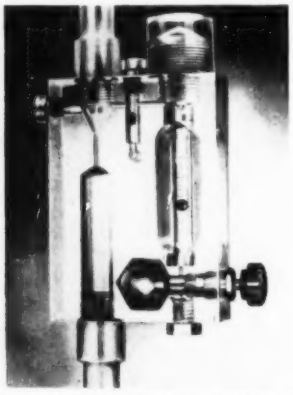
SERVING INDUSTRY . . . WHICH SERVES MANKIND

Machine Counts and Marks 1,000 Tickets per Minute



THE TICKOMETER, a new machine for counting and marking tickets, cards, or production slips at speeds up to 1,000 per min., has been developed by Pitney-Bowes, Inc., Stamford, Conn. The manufacturer states that the machine offers 100% counting accuracy, is simple and safe to run, requires no extensive operator training, and feeds and stacks automatically.

To request further information, please use the card on page C of the Reader-Service Dept.; refer to T-161.



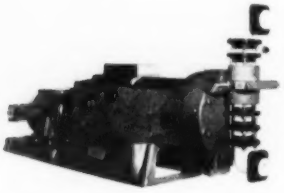
THIS COMPACT CHEMICAL FEEDER will handle any chemical to which acrylic plastic is corrosion-resistant.

Compact Chemical Feeder Meters and Dispenses

A new, compact, self-contained chemical feeder, the Feed-Rator, is being manufactured by Fischer & Porter Co., Hatboro, Pa. The unit is made of transparent acrylic plastic, and measures about 10x5x2 in. overall. The feeder simultaneously controls, meters, and dispenses relatively small amounts of chemicals into a larger stream. The built-in eductor takes the place of the pump, and many corrosive chemicals can, therefore, be fed directly from a container.

The unit will treat up to 7,000 gal. per day of water directly. In a by-pass arrangement containing a solution using a 5% active reagent by weight, five parts per million of the reagent can be delivered to over 14,000,000 gal. of water per day.

To request further information, please use the card on page C of the Reader-Service dept.; refer to T-160.



CERAMIC PARTS permit this proportioning pump to be used safely with corrosive liquids.

Proportioning Pump Handles Corrosive Liquids

A new line of Pulsafeeder chemical proportioning pumps with ceramic wet-end parts has been developed by the Process Equipment Div., Lapp Insulator Co., LeRoy, N. Y.

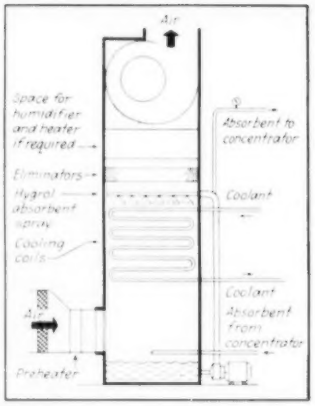
In the new line, reagent-head, valve, and valve housing are armor-encased solid porcelain; gaskets, valve seats, and diaphragm are of inert fluorinated hydrocarbon plastics.

By eliminating all metal in parts which come in contact with fluids being pumped, the ceramic wet-end Pulsafeeder increases the scope of corrosive-liquid control. The non-corrosive features allow for successful handling of all concentrations of all acids other than hydrofluoric, all metal salts other than strong caustics, chlorinated hydrocarbons, halogens, and liquids which must be kept free from metal-ion contamination.

The new model provides, for metered-pressure pumping, the advantages of positive displacement-system measurement, combined with the isolation of reagents by a hydraulically balanced diaphragm. No stuffing box or running seal is required. Flow rate is adjustable while the pump is in operation, and models for both manual adjustment and automatic control-responsive adjustment are available.

The proportioning pumps with the new head construction are available in capacities up to 330 gal. per hr. Maximum discharge pressures are 100 psig. for the large unit, 250 psig. for the small unit.

To request further information, please use the card on page C of the Reader-Service dept.; refer to T-159.



LABORATORY AIR may be conditioned and controlled by this new dehumidifying system of air conditioning.

Atmosphere Controlled by Dehumidifying Unit

The "Controlled-Humidity Method," a new system of air conditioning making use of an absorbent dehumidifier has been developed by Niagara Blower Co., 405 Lexington Ave., New York 17, N. Y. The system is said to give complete control of temperature and relative humidity, and to hold conditions constant or to vary them at the will of the user. The unit can also provide dry air at normal atmospheric temperatures, with little or no refrigeration required. A condition of 15 gr. of moisture per pound of air at 85° F. dry-bulb temperature has been produced without refrigeration.

The apparatus is inclosed in a casing through which air is drawn by fans. The air is filtered, and then enters a chamber where it is dehumidified in passing through a spray of "Hygrol" liquid, a hygroscopic chemical that absorbs the airborne moisture and which contains no salts or solids to precipitate. In the same chamber are located two cooling coils which remove the latent heat of evaporation and also do any sensible-heat removal that may be needed. The air stream then passes through entrained moisture eliminators and is diffused in the space to be conditioned.

The absorbent liquid spray falls into a tank at the base, from which it is piped to a concentrator which removes the moisture taken from the air. The reconcentrated liquid returns to the system. This process is continuous, and the apparatus operates at full capacity at all times.

The equipment may be used to provide winter air conditioning when re-

mechanical improvements

In recent months the Proctor preboarding machine has been redesigned to incorporate mechanical improvements which greatly simplify its operation.

A cam, which operates mechanically, replaces the three hydraulic pistons, formerly used to raise and lower the boards. This new principle is illustrated by the diagrams above.

In addition a new "dual board take-out device" has been incorporated in the improved design. This device brings the boards out individually and continuously at the two boarding positions. Wear and maintenance are cut to a minimum.

These improvements make this equipment the most simplified preboarding equipment yet designed. If you would like to know more about the redesigned Proctor equipment—or how these improvements may be built into your present Proctor preboarding machines—write today.

Much Proctor drying equipment and textile machinery is covered in full or in part by patents or patents pending.

PROCTOR & SCHWARTZ · INC
710 TABOR ROAD · PHILADELPHIA 20 · PA

quired through use of a tempering coil at the outdoor intake, a humidifier, and a reheat coil above the eliminators.

The equipment is manufactured in a range of sizes that give from 1,000 to 20,000 cfm. of conditioned air from a single unit. In addition, multiple-unit installations are practical.

To request further information, please use the card on page C of the Reader-Service dept.; refer to T-158.

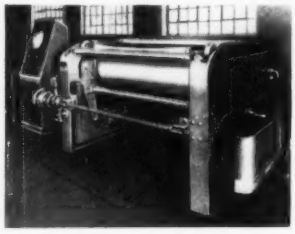
DIRTY BOBBINS and defective filling caused by handling are said to be reduced with this new battery-filler truck.

Battery-Filler Trucks Reduce Bobbin Handling

Special trucks for use in battery filling are available in two models from J. P. Paddock Co., South Church St. Ext., Spartanburg, S. C. The trucks are of lightweight construction, and are said to be easily maneuvered and handled by women. The chassis of the truck is made of all steel and is welded, eliminating the use of rivets and bolts. A stationary metal band is designed to prevent damage to looms or to the containers on the trucks. The trucks can operate easily in narrow aisles. Two sizes of containers are available, one holds 280 bobbins, the other holds 490 bobbins. The containers for the bobbins can be made of galvanized metal, aluminum, or vulcanized fiber.

The model shown in the illustration, the "Dan River" chassis and container, has a tilted-box design said to keep bobbins at the lower end of the removable container, eliminating stretching to reach bobbins. A smaller box is mounted below the bobbin container in which defective bobbins can be placed.

To request further information, please use the card on page C of the Reader-Service dept.; refer to T-165.



A VALVE MECHANISM in this horizontal calender opens rolls to pass seams, eliminating the possibility of roll damage.

Horizontal Calender Has Compact Design

A horizontal calender designed to require no more floor space than vertical calenders is a new development of H. W. Butterworth & Sons Co., Philadelphia, Pa.

A feature of this new calender is that the balanced-pressure design permits reduction in over-all weight and size. The over-size bases and frames of conventional vertical calenders are not necessary with this new machine, the company states.

The new Butterworth horizontal calender is streamlined, compact, and sturdy. In the completely inclosed design, there are four balanced pneumatic air cylinders. Pressures up to 15 tons can be adjusted to each side of the roll to insure even pressures across the face.

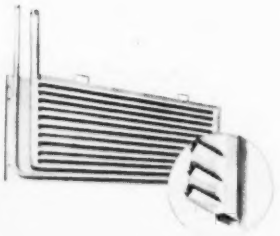
Another feature is that rolls are protected against damage by a simple valve mechanism for jumping seams.

Standard equipment of the new horizontal calender includes automatic threading device, ball-bearing friction let-off and disk-winder, pressure-recording and drum-control speed regulator, and steam heat to center roll.

To request further information, please use the card on page C of the Reader-Service dept.; refer to T-169.

New Acrylic-Resin Fiber By Avisco and Monsanto

▶ A new synthetic fiber "with many of the same qualities" of Orlon is being developed by the Chemstrand Corp., which is jointly owned by American Viscose Corp. and Monsanto Chemical Co. Experimental fiber for commercial testing is expected shortly.



PLATECOIL heating units are mounted on the side of tanks in which solutions are heated.

Heating Coils in Plate Form Replace Steam Pipes

A new line of heating coils in plate form which can replace hard-to-remove steam-heating pipes for tanks has been developed by Kold-Hold Mfg. Co., Lansing 4, Mich. The new coils, called Platecoil, can also be used for cooling. The Platecoil has a smooth surface which can be easily cleaned of process coating and sludge, and good housekeeping and maintenance are said to be able to preserve the life of the coil indefinitely.

The design of the Platecoil provides generous passages for the heating agent and a high ratio of prime surface, developing an extra high rate of heat transfer. For this reason, less plate area is said to be required than with conventional pipe-coil design. Plates are tested under water at 180 psi. before shipment.

When pipe coils must be removed, the Platecoil can be removed, discarded, and replaced by a new unit, often without shut-down at a cost comparable to the labor necessary to repair old pipe coils. Other advantages claimed for the Platecoil are: low first cost, high Btu. capacity per sq.ft. of area, rapid and even heat transfer, small coil space permitting a greater tank capacity, ease of installation, strong and lightweight coils with all-welded seams and joints, no pipe threads in solution, and low maintenance cost. The Platecoils are available in cold-rolled steel or in stainless steel, and can be designed, engineered, and sized to meet the needs of most industrial applications for tank-heating and cooling coils.

To request further information, please use the card on page C of the Reader-Service dept.; refer to T-163.

USEFUL ACCESSORIES *for the Textile Mill*

(starts on page 236)

ECONOMY

IN TEXTILE MILL MAINTENANCE

FULLER TEXTILE BROOM LASTS 3 to 6 TIMES LONGER

Cuts Rising Maintenance Costs With labor costs mounting steadily the economy of longer-lasting cleaning tools provides the answer to keeping maintenance costs within bounds. The carefully selected fibers of the Fuller Texile Broom provide a durable sweeping surface that outwears 3 to 6 ordinary brooms. A light weight metal casing further increases the broom's life by protecting it from damage when sweeping under or around machinery.

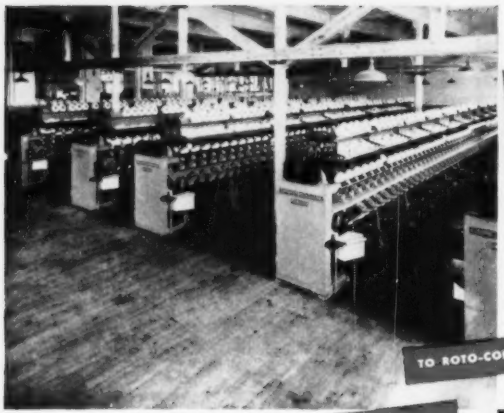
For true economy in *your* mill, make sure you get the Fuller Textile Broom.

Phone your local Fuller Branch Office or write

The FULLER BRUSH CO.

INDUSTRIAL DIVISION
3594 MAIN ST., HARTFORD 2, CONN.

IN CANADA: FULLER BRUSH COMPANY, LTD., HAMILTON, ONTARIO

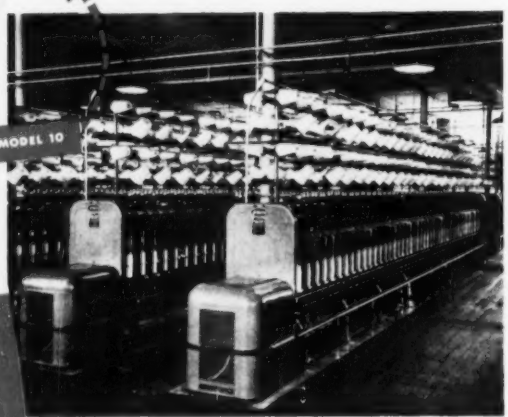


Double Play

TO ROTO-CONER*

ROTO-CONER*

TO MODEL 10



Spun rayons, cottons, worsteds and blends can be transferred from spinning frame bobbins onto large packages . . . *at high speeds* . . . with yarn *fully inspected* in the singles . . . and *without doubling* prior to twisting. First, the Universal Roto-Coner* inspects the single yarn and winds it onto large cones for twisting on the Atwood Model 10 Ring Twister.

*Reg. U. S. Pat. Off.

Eliminates Doubling

FOR PLIED YARNS

With the Model 10, preliminary doubling is not necessary because the individual stop motion for each end in the ply permits tying knots in the singles whenever a break or run-out occurs. Drop ply and roller laps are thus prevented, thereby improving quality and reducing waste. The large twister packages are now re-wound on the Roto-Coner* at high speeds onto sales yarn packages of uniform shape and density, free from roll-cuts and underwinds.

UNIVERSAL WINDING COMPANY

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Boston, Philadelphia, Utica, Charlotte, Atlanta, Chicago, Los Angeles; Montreal, Hamilton, Canada; Manchester, England; Paris, France; Basle, Switzerland

Agents in every principal textile center throughout the world

Winding and Twisting Machinery for Natural and Synthetic Yarns

ROTO-CONER* *the textile winder with the rotary traverse* | **MODEL 10** *automatic stop motion for each end and ply*

Pointers FOR SUPERVISORS

Uxbridge DINNER PARTIES Strengthen Management-Worker Ties

By WILLIAM EASTMAN
Industrial Relations Manager, Bachmann Uxbridge Worsted Corp.

MODERN INDUSTRY, in large measure, has lost its human touch. The distance between worker and front-office executive has increased at an alarming rate as mills have grown from small shops employing a few workers to our present-day plants which employ hundreds or thousands.

The distance has been increased, too, by the insistence on the part of unions that they are better equipped to interpret the motives of management than is management itself.

And, in some cases, management has been willing to sit back and allow others to distort its story.

The result in these cases, quite naturally, has been the loss on the part of the worker of a feeling of kinship toward the management of his company. He no longer integrates his efforts with the success or failure of his company. His job has become something for which he receives a week's pay and little else. Management has become something too ethereal for him to worry about.

Many schemes and grandiose plans have been fathered in an effort to renew this kinship between a worker and his management. But most have proved ineffectual or a total loss for the simple reason they have failed to take into consideration a basic premise which, as stated in most sales manuals, goes something like this: "when approaching a prospect, you must sell YOURSELF first before you can sell an idea or a product."

Realizing the truth of this axiom, Harold J. Walter, president of Bachmann Uxbridge Worsted Co., Uxbridge, Mass., decided six years ago to do something about it. The results, insofar as it is possible to measure human feelings, have been outstanding.

"If our people don't like us, it is primarily because they don't know us," he said. "If they don't trust us and our motives, it is because they do not, from personal contact, know us as honorable men. If they do not understand us, it is because we have done nothing to aid their understanding.

"Yet we are human. We put on our pants one leg at a time just as our workers do. Let's convince them. Let's let them see us and know us. If we fail, then at least we will have tried."

DINNER PARTIES. The method which Mr. Walter selected was effective because it utilized all the elements of human friendship. He and Mrs. Walter invited a group of workers from the plant to have supper with them at the Uxbridge Inn. The invitation was warm and personal, and carried conviction. The invitations, one of which is reproduced below, bore the personal signature of Mr. Walter.

Mr. John Jones
Dear Johnny,

Mrs. Walter and I, together with a few members of the office staff, would like to have you join us for dinner at the Uxbridge Inn on Jan. 24 at 6:30 p.m.

There will be nothing elaborate about this affair, just a friendly get-together to know each other better. I have asked Buddy Moore [Employment Director] to check with you to make sure you will be with us.

Sincerely,
H. J. Walter

The first few dinner parties were stiff and somewhat forbidding. The casual friendliness which has been hoped for was lacking. On top of that, about 50% of those invited refused the invitations for a wide variety of reasons, most of them patently made-up.

Instead of giving up on the idea because of a few failures, the entire management group was pumped for ideas which would improve the dinner parties. Gradually, techniques were worked out and developed so that, instead of finding excuses for not going, workers in the plant began to bombard the personnel department with questions concerning why they had not been invited to a party. After nearly six years of operation, about 90% of the total working force has sat down to dinner with the boss. The dinner parties will continue on a monthly basis until all have attended.

PLANNING. Although a casual atmosphere is most sought after at the dinner parties, the work which goes into them must be anything but casual.

Here is the general scheme which has been developed:

At least one person from each department in the mill, including the office, is invited to each party. Larger departments are represented by two or three to bring the total number of guests to about 25. Besides Mr. and Mrs. Walter, regular attendants include the superintendent of the plant and his assistant, the assistant general manager, the assistant treasurer, the personnel manager, the employment manager, the public-relations director, and one or two more.

Extreme care is used in the seating arrangement to make sure a representative of management sits between two workers from the plant. This prevents cliquing both on the part of the management group and the workers.

Following a brief period in the lobby until all guests arrive, during which Mr. and Mrs. Walter and the executives circulate among the guests, trying to put them at ease, all go to the dining room. The tables are arranged in a hollow square with no one seated on the inside. Thus everyone can easily see everyone else.

After the serving of the first course (especial care is taken to provide excellent menus), Mr. Walter starts a series of introductions which go all around the table. As he mentions each name, he tells how long the person has been with the company, who his or her relatives working in the company are, and then relates humorous anecdote about the person introduced. These anecdotes are all carefully prepared in advance without the knowledge of the guests. Every effort is made to make them as funny as possible, and this simple device does much to break down any uneasiness which may exist.

At infrequent intervals, and only when he has something of grave im-

(Continue on page 196)

Kinks AND SHORT-CUTS

Best-Kink Award For October

Each month TEXTILE WORLD awards $25 to the submitter of the kink which is judged by a panel of over 200 practical mill men as the best for that particular month. A new batch of kinks appears each month, and a new group of readers acts as judges each month.

If you are asked to judge one of these days, be sure to help select the best kink by sending back your answer in time for final tabulation. Closing date for judging is the last day of the month in which the kink appears.

The best kink for October, according to TEXTILE WORLD reader-judges, was:

"Card-Flat Settings Indicated by Dial Gages"

By J. F. Bogdan, Raleigh, N. C.

Mr. Bogdan is being sent a check for $25 with the compliments of TEXTILE WORLD.

50-Ft. Conveyor Moves Napped Rolls

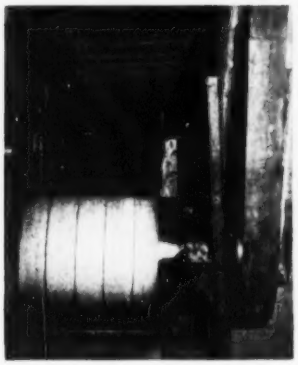
The conveyor belt shown in the accompanying photograph moves rolls of napped cloth from the second-floor napping room to the ground-floor cutting room in another building. The distance is 50 ft.

Utica Knitting Co., Anniston, Ala., where the conveyor is in operation, first installed a covered chute for moving the rolls by gravity. Considerable materials-handling time and labor were saved, but the slide down the chute beat down the nap of the cloth and made it smooth.

To overcome this difficulty, a conveyor belt was substituted for the chute. The conveyor-belt drive consists of a driving drum driven by a flat-belt pulley (both shown in the photograph).

The belt on the drive pulley is driven from the countershaft that drives the napping machines. The speed is stepped down so that the conveyor belt moves slowly to eliminate any tendency for the rolls of napped cloth to slide or roll down the inclined belt. Smooth-finished boards protect the cloth rolls from the sides of the housing that protects the belt and rolls of cloth from the weather.

In the cutting room the rolls come off the conveyor belt on a "handling" table, from which they are sent to the cutting tables.



THIS 50-FT. CONVEYOR moves napped cloth from the napping room on the second floor of one building to the cutting room on the first floor of an adjoining building.

Since this conveyor replaced the chute, the mill has had no rolls damaged in movement from the napping room to the cutting room. *(K-1241)*

Knitting Needles Stored In "Conditioned" Cabinet

Knitting needles stored in cabinets have a tendency to rust. This trouble

Below is announcement of a greater KINK CONTEST you can enter NOW. Kinks being published in this issue will be judged as outlined in the rules below.

$200 for Best Kink in 1949
$25 for Best Kink Each Month

In Addition to Space Payment on Acceptance

You undoubtedly know of many kinks and short cuts that are helpful to mill operators. Write them down and send them in. We pay promptly on acceptance—before publication. In addition, your kink may win the $200 check for the best kink of the year or the $25 check for the best kink of the month, maybe both!

Send in your kink now. There is always a contest going on. The more good kinks you send in, the better your chances of winning a prize in addition to earning some easy money for every kink accepted.

We will polish up your writing and will have an artist make finished drawings. But send in plenty of details so that your kink can be clearly explained. Be sure your sketch is clear and well labeled, but it need not be a polished job. Best of all, send us a good glossy photograph of it—we will pay you extra if you do and we can use it.

Look over the kinks in this and other issues. You will get ideas you can use as well as inspiration for kinks you can send in. We like items that pertain to ways for improving machines, new devices that a mill man can build, attachments or methods of merit—anything that will cut costs, improve quality, or help production.

Your published kink will be judged impartially by other mill men.

In case of ties, duplicate prizes will be awarded.

RULES OF CONTEST

1. No limit to number of entries.
2. New $25 prize contest every month, $200 prize contest for the year. Monthly contest confined to kinks published that month, yearly to those published in calendar year 1949.
3. All kinks paid for on acceptance; extra payment for photographs. Drawings need not be finished (clear detailed pencil sketches will do).
4. Previously published material not eligible for prizes.
5. Unless you advise to contrary, we assume we may sign your name to kink when published.
6. Prize winners will be selected by readers, a different group each time. At least 200 will be asked to select preferred kinks in each issue. Their votes will select the best kink, and their decision will be final.

Send kinks to whichever address you prefer:

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P. O. Box 1641, Columbus, Ga.

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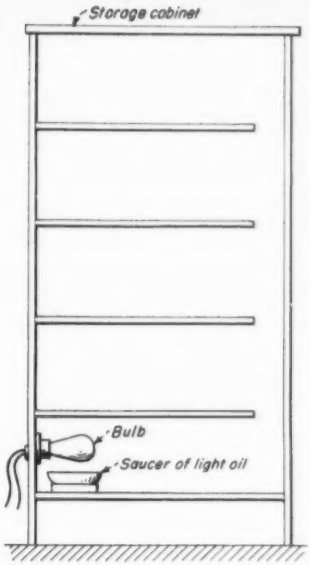


***KNITTING NEEDLES** stored in a cabinet of this type will not rust. The low-wattage light bulb keeps air in the cabinet dry and speeds up evaporation of the oil in the saucer. Oil vapor in the air helps keep the film of oil on the needles.*

occurs especially when packages are opened often for new needles for replacement on machines. Exposure of the needles to the air causes the coating of oil on the needles to dry out.

In order to correct this situation, Richmond Hosiery Mills, Rossville, Ga., installed an electric light-bulb socket and keeps a low-wattage bulb burning at all times. The heat from the bulb is just sufficient to keep the air in the storage cabinet dry.

As an added precaution against rust, a small open vessel of oil is placed under the light bulb to increase evaporation of the oil, and the small amount of oil vapor in the air helps decrease the drying out of the film of oil on the needles.

Since this arrangement has been in effect, the mill has not been troubled with rusting of needles and small metal parts kept in the cabinets. *(K-1242)*

Ribbon-Lapper Knock-Off Does Not Choke Up

An electric knock-off on a ribbon-lap machine many times fails to function because a lint choke from the lap roll prevents a connection being made between the trigger and electrode roll. When this condition arises, the lapper, of course, continues to operate although the lap has run out or is not running straight.

In order to correct possibilities of such conditions, Earl Watkins, a fixer at Richmond Hosiery Mills, Rossville, Ga., devised new knock-off parts that have functioned perfectly.

The knock-off parts consist of a fifth driving roll and a pivot roll.

The driving roll is placed on the lapper immediately in front of the standard four rolls on which the feed laps are creeled. This fifth roll is connected with the electric knock-off so that it serves as the electrode roll. It is geared to run at the same speed as the standard rolls.

The pivot roll serves as the trigger, or "feeder," to actuate the knock-off. It is made of brass, machined and smoothed to a diameter of $\frac{7}{8}$ in. and a length of $\frac{3}{4}$ in.

In operation, the ribbon lap from the standard rolls of the lapper runs over the fifth roll. At each selvage of the ribbon, one of the $\frac{3}{4}$-in. brass pivot rolls extends from the selvage toward the center of the ribbon. These short brass rolls ride the ribbon directly over the fifth roll. If a lap-up, run-out, torn selvage, thin place, or similar ribbon defect occurs and the ribbon will not support the weight of one of the brass rolls, the roll drops down on the fifth roll. An electric circuit is completed by contact of the two rolls, and this circuit energizes the knock-off, which stops the lapper.

The arrangement that permits the brass roll to pivot is as follows:

A hole is drilled lengthwise through

Kinks AND SHORT-CUTS

(Continued)

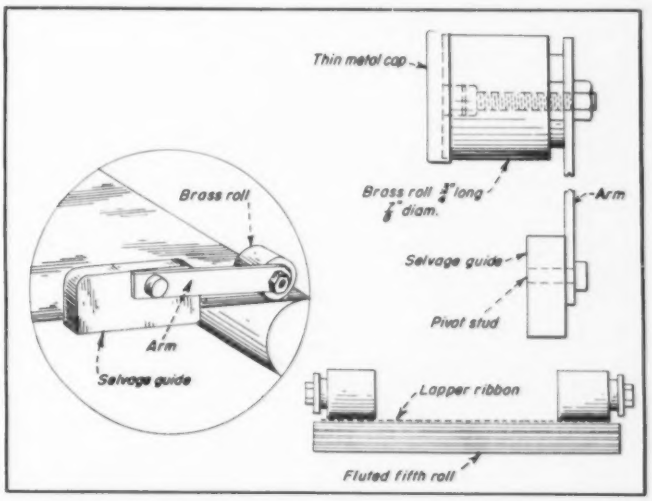
the brass roll; and a $\frac{7}{16}$-in. bolt, with a short threaded end, is placed in the hole to serve as a stud on which the brass roll turns. The bolt head is countersunk so that its top is below the end of the roll. A thin brass cap is soldered to the end of the roll and over the head of the bolt to keep the bolt from sliding out of the roll.

The diameter of the center hole in the brass roll and the countersink for the bolt head must be large enough to permit the brass roll to turn freely on the bolt.

The knock-off arm that supports the brass roll in place over the fifth roll is pivoted at one end to the ribbon selvage guide with a stud bolt on which the arm can be freely raised and lowered. At the other end of the arm is a bolt hole to receive the threaded end of the $\frac{7}{16}$-in. stud bolt in the brass trigger roll. The stud bolt is locked in place on the knock-off arm with lock nuts.

Thus, two movements of the trigger device are provided for: (1) the free turning of the brass trigger roll, and (2) the up-and-down movement of the knock-off arm that supports the brass roll.

The turning of the trigger roll is caused by the roll riding the ribbon. The up-and-down movement of the knock-off arm is caused by the thickness of the ribbon raising it or the weight of the roll lowering it when



***NEW RIBBON-LAPPER KNOCK-OFF** prevents stoppage caused by lint chokes, and consists of fifth driving roll and brass pivot roll. Sketch at right shows details of construction. Sketch at left shows the ribbon of slivers in running position between the fifth roll (the electrode) and the brass (trigger) rolls.*

the ribbon gets thin or for any reason stops running.

Since the new knock-off parts were installed, no more trouble has been experienced with knock-offs choking up and not working. *(K-1244)*

Lightweight Truck Made of Pipe and Boards

***AN INEXPENSIVE TRUCK** used by Utica Knitting Co., Anniston, Ala., for transporting rolls of knitted cloth is shown here. Galvanized pipe ¾ in. or 1 in. in diameter is used for the frame. The pipe is fastened at the bottom to 2x4 or 2x6 boards, and rubber-tired casters are mounted to the lower side of the boards.*

***Advantages:** easy and cheap to build, clean, lightweight, and easy to maneuver.* (K-1245)

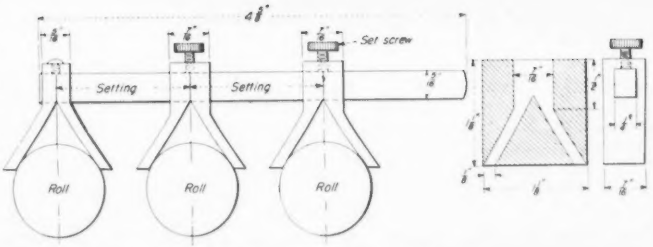
Gage Measures Rolls From Center to Center

In checking drafting-roll settings on roving or spinning frames, it is often difficult to determine the exact centers of the rolls. Unless measurements are made from center to center, the indicated settings are not correct.

The gage shown offers a quick, reliable method of obtaining these settings. The results will be found more accurate than laying a rule on the rolls and estimating the center of each roll or inserting leaf gages between the bosses of the rolls and figuring the roll bites from the roll diameters.

If the gage in the drawing is made and used correctly, the center of each roll will be found automatically and the lines marked on the adjustable slides will indicate the center of each roll. It is necessary only to measure the distance between the marks on adjacent slides to get the exact setting between roll centers.

When the gage is used, the end slide (to the left in the drawing) remains in position as shown; it is



***A ROLL-SETTING GAGE** that indicates the distance from the center of one roll to the center of another can be made as shown here. The roll yoke shown at the left is placed on top of the back-roll boss. The other two yokes are loosened, moved to the bosses of the middle and front rolls, and tightened. A long crossbar slot can be cut in the middle-roll yoke to allow it to drop lower than the others to accommodate a smaller-diameter middle roll.*

screwed tight on the bar. The handscrews holding the other two slides are loosened slightly to permit easy movement of the slides on the bar. All three slides are placed in position on roll bosses. The two loose slides are now tightened with the knurled handscrews. Measurements are taken from the center line on each slide.

For measuring four- or five-roll drawing frames, additional slides and a longer bar will be required. Where there is a large difference in roll diameters on the same frame, allowance should be made for the small rolls by cutting longer holes in the slide for the bar to work in. The slide for smaller rolls should extend downward for a distance equal to about one-half the decrease in diameter.

The gage is made as follows:

A piece of metal rod ¼ in. thick, ⅞ in. wide, and 4⅛ in. long is used for the crossbar.

The slides can be machined from metal blanks ⅞ in. thick and 1¼ in. square. As shown in the sketch, the slide should be cut in the form of an inverted Y, with the base leg being ⅞ in. wide and ½ in. high. The top wings of the Y should be ½ in. wide, or slightly less, and should extend exactly to the corner of the square blank. In the sketch, the areas to be machined away are shaded.

Two slides should be made to these dimensions for use on the middle and front rolls to be set. The back-roll slide that is to be made stationary on the crossbar is machined so that the base leg of the Y is ⅞ in. wide.

As shown in the sketch, a rectangular hole ½ in. wide and ⅞ in. high is drilled edgewise through the center of the Y base leg of the slide. This hole is used to receive the crossbar. In the slides for the middle and front rolls (which must be slid along the bar for adjustment to different roll settings), the crossbar holes should be smoothed up so that they are slightly oversize. If rolls of different diameters are to be gaged, cut the crossbar holes in the middle and front slides longer than ⅞ in., as already mentioned.

Setscrew holes are drilled and threaded from the bottom of the Y bases to the crossbar holes. In the slide for the back roll, a regular setscrew can be used. It should be run down tight on the bar so that the slide is held stationary. Knurled hand setscrews are used in the other two slides so that adjustment of the slides can be easily made.

In the exact center of the side of the Y base, cut a straight mark to indicate the roll-center plumb line. Roll-center settings are measured from these marks. *(K-1247) Tony Kobosinski, Utica, N. Y.*

Leaders for Jig Dyeing Eliminate Waste at Ends

Many mills that jig-dye synthetic-fiber cloth find that they are making a lot of waste at that process.

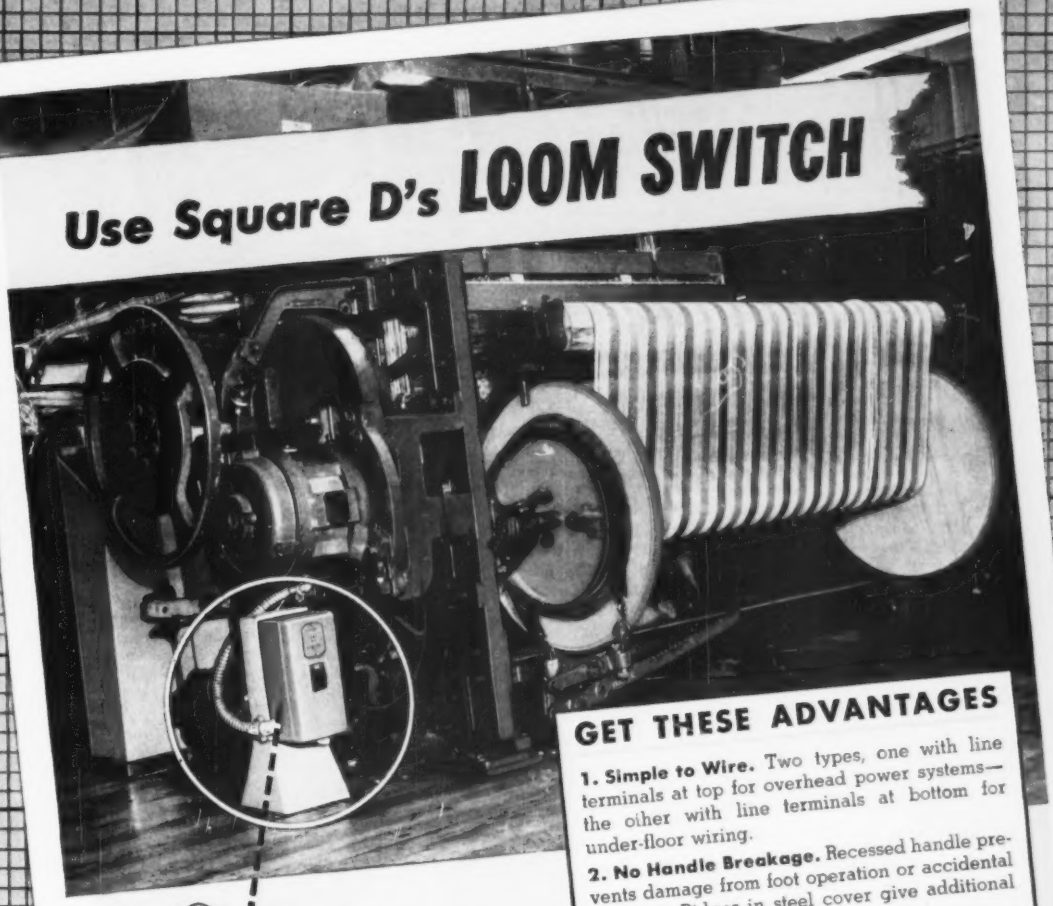
The trouble is that the two ends of the piece never touch the dye liquor. Each end of the goods is wound around a winder; and when the run from end to end begins, about 7 or 8 yd. of cloth are around the winder and between the winder and the level of the dyebath. When the run is made, about the same length of cloth at the other end of the piece does not reach the bath. The result is that about 15 yd. of each piece are not dyed and must be cut off.

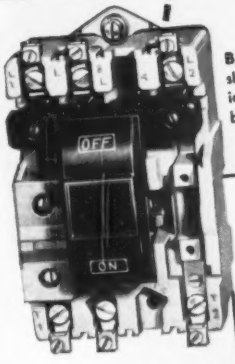
This waste can be avoided if a leader is used at each end of the piece to be dyed.

A reinforced rubber blanket would make an excellent leader for this use. Or a leader made of strong cloth could be used.

The leaders would take up the 7 or 8 yd. at each end of the piece that are not dyed at present, thus permitting

Use Square D's LOOM SWITCH





Basic Starter Mechanism shows toggle operator, convenient terminals, deep porcelain base, two-screw mounting strap.

Overload Relay is melting alloy, protected type.

GET THESE ADVANTAGES

1. Simple to Wire. Two types, one with line terminals at top for overhead power systems—the other with line terminals at bottom for under-floor wiring.

2. No Handle Breakage. Recessed handle prevents damage from foot operation or accidental collision. Ridges in steel cover give additional handle protection.

3. Group Fusing. Protected type overload relays allow several motors on a single set of fuses—typical of textile installations.

4. Reduced Electrical Maintenance. Deeply recessed contact chambers provide generous electrical clearances and exclude falling lint. Non-carbonizing porcelain base ideal for humid locations.

5. Safety Features. Cover cannot be removed with switch in "**ON**" position. Single padlock may be used to lock cover in place and starter in "**OFF**" position.

Write for Bulletin 2510. Square D Company, 4041 N. Richards St., Milwaukee 12, Wis.

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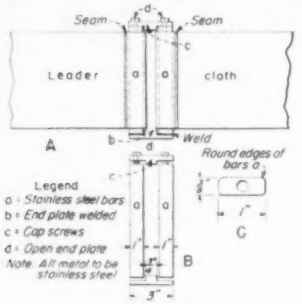
Kinks AND SHORT-CUTS

(Continued)



***UNDYED PIECE ENDS** in jig dyeing can be avoided by the use of a leader attached to each end of the piece to be dyed. Make a hem at the end of the leader and another one in the end of the cloth. Slide these hems over the stainless-steel bars, as shown, and fasten the bars together with handscrews through plate c. The connector and the end of the cloth can be drawn into the dyebath to eliminate the 7 or 8 undyed yards that usually result in jig dyeing at each end.*

the whole length of cloth to be run through the dyebath. The saving would be the 12 or 15 yd. now lost on each run.

The accompanying sketch shows a quick method for joining the cloth and leader.

About 3 or 4 in. of the end of the leader are doubled back on the body of the leader and sewed down at the end. This seam makes a hem in the end of the leader about 1½ or 1¾ in. long. It is hollow, of course, and can be slipped over bar a in the same way that a curtain hem is slipped over a curtain rod.

A similar hem is made in the end of the cloth that is to be dyed.

The device that holds the ends of the leader and the end of the cloth together is made as follows:

Two stainless-steel bars, a in the sketches, ⅜ in. thick and 1 in. wide, with rounded, smooth edges, are cut to the length necessary to accommodate the width of the cloth to be dyed. An end of each one of these pieces is also rounded and smoothed. The other end of each is to be welded to plate *b* and need not be rounded or smoothed.

Plate *b* is 3 in. long and ⅜ in. thick to match the thickness of bars a. The width of b should be about ⅜ in. at the points near its ends where it will be welded to bars a. The center ¾-in. offset may be about twice the width of the ends, or about ½ in.

Plate c is made in the same shape and to the same dimensions as plate *b*. However, plate c serves as a removable end bracket for bars a and must not be welded. In each end of c, at the center of the ⅜-in. width, drill a capscrew hole. The heads of these screws should not be greater in diameter than the ⅜-in. thickness of c.

Now drill and tap a hole for one of these two capscrews in the rounded end of each bar a. Weld plate *b* to the other ends of bars a.

It is advisable to use only stainless-steel material for making the connector.

It will be necessary to make two identical connectors, one for each end of the cloth.

The devices are now ready for use.

Slide the hem in the end of the leader over one of the bars and the hem in the end of the cloth to be dyed over the other bar. Put plate c in place over the unconnected ends of the bars, insert the two capscrews, and tighten them.

At the beginning of the run, the leader can be unwound until the connector and the end of the cloth are in the dyebath. At the end of the first run, connect the other end of the cloth to the other leader in the same way that the first end was connected.

When dyeing has been completed, it will be necessary to remove one connector and leader, make a pass run of the cloth to unwind it from over the other leader, and then disconnect the second leader.

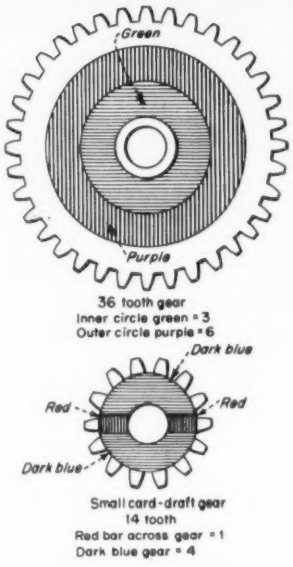
The added work that the use of this device causes amounts to: (1) making a seam in each end of the cloth with a portable seamer, and (2) making the pass run. *(K-1250) George T. Ford, Boston, Mass.*

Color Code for Gears Prevents Change Errors

One mill avoids many errors and much uncertainty as to the number of teeth in the change gears being run by the use of a color code for its entire range of change gears in the carding and spinning rooms. The same code can be used for both departments.

The variety of counts and blends is wide and requires a large range of change gears. Because of this large range, a two-color code scheme was devised that was simple and yet broad enough to cover the span between the small card-draft gears and the large crown gears used on drawing and roving frames.

It is claimed that this system furnishes a check on the number of teeth in each gear and corresponds with the number stamped on the gear. It aids in picking out the gears needed for a change and permits a quick check of a gear on the frame without removing gear.



***NUMBER OF GEAR TEETH** in all change gears can be shown by painting the gear sides with colors indicated by a color code. Large gears are painted with two circles, small gears with a solid side and a bar.*

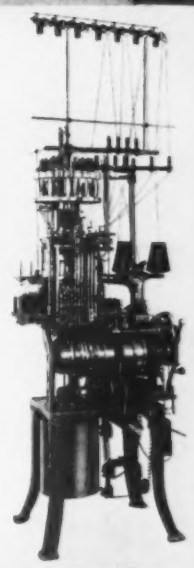
The colors used and the number of teeth each color represents are:

Color	Number of teeth
Red	1
Yellow	2
Green	3
Dark blue	4
Orange	5
Purple	6
Pink	7
Brown	8
Light blue	9
Slate	10

On the medium- and larger-size gears, a circle ¾ in. wide of the proper color is painted on the web of the gear near the hub to represent the first figure in the number of teeth. A similar circle of proper color is painted on the web near the outer rim of the gear. This circle always represents the second figure in the number.

For example, a 36-tooth gear would have a green inner circle, designating that 3 is the first figure in the number of teeth. It would also have an outer circle of purple to show that 6 is the second figure in the number of teeth. Therefore, the number of teeth in the gear is 36.

In the larger crown gears, a 102-



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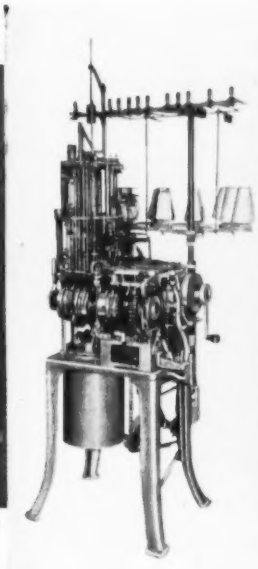
Smart Embroidered Clocks with Wrapped Patterns on Komet Broad Ribs in a Single Automatic Operation

No need for expensive hand embroidery or Swiss clocking machines.



The Scott & Williams Infants' Komet Links-and-Links Machine

An Endless Variety of Links-and-Links Patterns and Ribs in Both Tops and Boots of Infants' Sox and Anklets, Plus Picot Edge

Produces a new and varied line of infants' hose. Frees manufacturers of the difficulty of two machine operation and the staggering expense of hand transfer knitting. *This machine is completely automatic.*

Call your Scott & Williams representative for samples of hosiery and complete details on these two Scott & Williams machines.

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tooth gear would have a slate circle near the gear hub to indicate 10 as the first figure and a yellow outer circle for 2, the second figure. The number of teeth indicated by the colors would be 102.

When very small gears are used, it is found advisable to paint the side of the gear a solid color to represent the second figure of the number and a narrow straight bar across the side with the color to show the first figure. A 14-tooth card-draft gear would be painted dark blue on the side to show 4 for the second figure and a red bar over the blue to show 1 as the first figure.

An arbor can easily be fitted to the bobbin-painting machine so that a neat, quick job of painting can be done on the revolving gear. The bars, when needed, can be painted on by hand. Regular bobbin paint or any other quick-drying paint or lacquer can be used.

The color code can be posted on the wall in the gear closet and used for checking all gears put on the machines. *(K-1248)*

Bruised Warps Prevented By Wires to Knock-Off

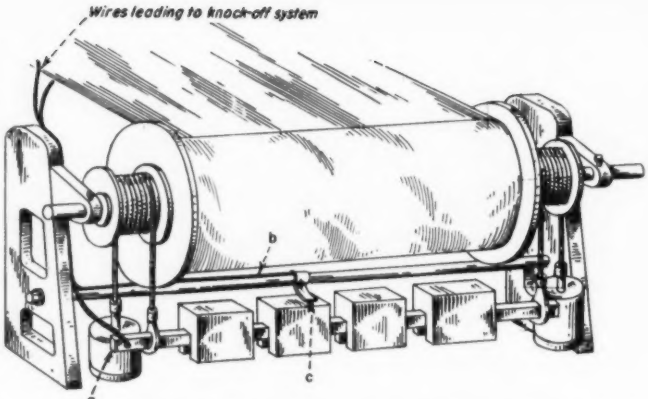
In mills that use the balance-weight method of putting tension on loom warps, the rope sheaves sometimes fail to slide under the ropes. When this condition occurs, the weight bar is lifted by the ropes and the balance weights are pressed against the beam of yarn. Usually, the yarn is damaged and frequent stoppages result.

If the loom is equipped with an electric knock-off, this source of damage can be easily avoided.

As shown in the sketch, two electric wires are connected to the electric knock-off system at the drop-wire bars. The other ends of these two wires are led under the warp beam. One of them is connected directly to the balance-weight bar at point a. The other one is extended along the shaft under the beam to about the middle of the loom, point *b* in the sketch.

A piece of spring steel or stiff wire is looped around the shaft and insulated from it. The other end of the spring steel or wire is bent out and extended outward toward the balance weight until it rests 1 in. above one of the weights. At point *b* the electric wire is connected to this piece of spring steel or stiff wire.

If the ropes stick to the sheaves and lift the weight bar, the weight touches wire c, completes an electrical circuit, and the knock-off stops the loom before the balance weights strike the warp. *(K-1258)* *H. Jackson, Yorkshire, England*



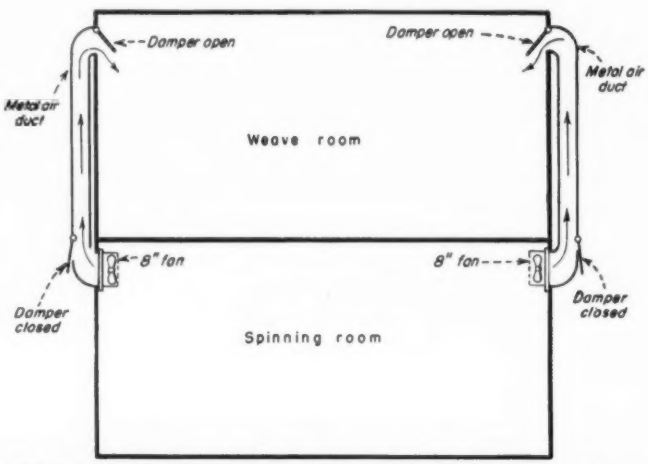
***BRUISED WARPS** caused when the balance weights are lifted by a sticking rope until the weights strike the warp can be prevented by wires from the electric knock-off connected as shown here. Spring steel or heavy wire c serves as a trigger for completing the knock-off circuit.*

Spinning-Room Air Blown to Weave Room

The air in our spinning room used to get too hot when all the frames were running. To relieve this condition, exhaust fans were installed at each end of the spinning room to discharge air to the outside. A large amount of heat and humidity were lost in this discharged air.

To stop this loss so that the heat and humidity that were being discharged could be used, I had two sheet-metal ducts made and installed to convey the air discharged from the fans in the spinning room to the weave room, where it was needed to improve atmospheric conditions.

Suitable dampers were provided so that the amount of air could be controlled at different seasons of the year. The ducts were lined with asbestos board 1 in. thick. This insulation prevented loss of heat in transmission and eliminated condensation from air which came in contact with the cold duct. *(K-1249)* *Richard Dilworth, Fall River, Mass.*



***LOST HEAT AND HUMIDITY** from the spinning room, where they were not needed, were blown to the weave room, where they were needed. The result was improved conditions in both rooms for the expense of two insulated ducts and two exhaust fans.*

THIS FIXTURE
CARRIES THE RLM LABEL

Engineered and manufactured to meet rigid RLM standards, this DAY-LINE fixture is typical of all Day-Brite "Decidedly Better" industrials.

THE DAY-BRITE DAY-LINE* for two 40-watt lamps with TURRET* Sockets

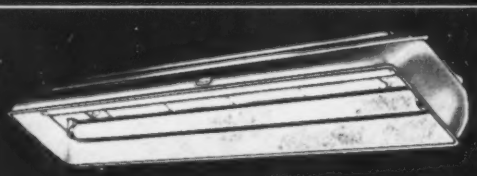
THIS FIXTURE
CARRIES THE RLM LABEL

DAY-LINE steel reflectors are finished in vitreous porcelain enamel. Reflection factor is 82% or more. Lateral shielding angle is 13°.

THE DAY-BRITE DAY-LINE* for two 85-watt lamps

THIS FIXTURE
CARRIES THE RLM LABEL

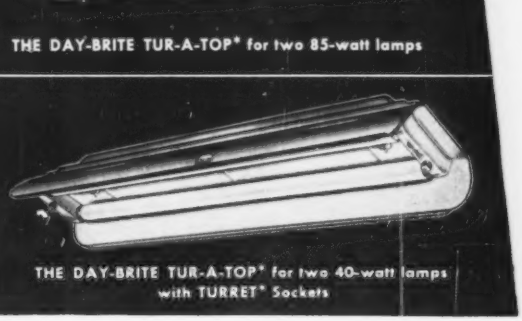
The sturdy TUR-A-TOP housing is die-drawn from one piece of steel eliminating mis-alignment and assuring a lifetime of stability.



THE DAY-BRITE TUR-A-TOP* for two 85-watt lamps

THIS FIXTURE
CARRIES THE RLM LABEL

This TUR-A-TOP, like all Day-Brite industrials, is wired with Certified ballasts and is equipped with NO-BLINK type starters.



THE DAY-BRITE TUR-A-TOP* for two 40-watt lamps with TURRET* Sockets

409

In fact, every Day-Brite industrial fixture bears this positive proof of top quality and engineering . . .

DAY-BRITE RLM

The point is this . . . if it's a Day-Brite industrial, it's a RLM fixture. Those two labels—Day-Brite and RLM—are your *guarantee* of year-in, year-out top performance at the lowest possible installation and operating cost. Before you plan your factory, plant or warehouse lighting, get the facts about "Decidedly Better" Day-Brite. Write TODAY for bulletins 30-A-3 and 30-B.

IT'S EASY TO SEE WHEN IT'S
DAY-BRITE *Lighting*

*T. M. Reg. U. S. Pat. Off.

Day-Brite Lighting, Inc., 5455 Bulwer Ave., St. Louis 7, Mo.
In Canada: Amalgamated Elec. Corp., Ltd., Toronto 6, Ontario

DISTRIBUTED NATIONALLY THROUGH LEADING ELECTRICAL WHOLESALERS

Round Table

FOR EXCHANGE OF IDEAS—*The Round Table is open to letters from any and all readers discussing subjects relating to mill management, production, engineering, technology, etc. Names of contributors will be held confidential if so requested, but contributions must be signed with real name and address as evidence of good faith and to permit payment for items published. Address contributions to: Editor Round Table,* TEXTILE WORLD, *330 West 42nd St., New York 18, N. Y. Write your message on card in Reader-Service Department if you wish.*

Supervisors Should Know Workers Ceiling Levels

Textile-mill supervisors have long been aware of the fact that not all workers have the same natural ability. Even when they put forth their best efforts, some men and women cannot attain the "ceilings" in production which others reach with no difficulty. Yet having agreed this is true, many seem to have made little use of the obvious fact.

1. Nothing is gained by overlooking natural differences between textile workers and trying to set standards which some workers must strain to achieve. No one will ever know how much resentment is caused by men in a low-ceiling group attempting to do what high-ceiling employees find easy enough. Such personal resentment quickly boils over into general discontent that filters through a whole department, and perhaps the entire mill.

2. Changing the natural ceiling of adult workers is next to impossible. But you may train them to utilize more fully what ability they possess. And you may shift them around until you discover where they contribute most to production while operating at their normal degree of efficiency. Don't overlook opportunities in these directions, for the average textile mill suffers less from lack of ability than from poor management in using what is available.

3. Some workers reach the ceiling of their ability in a very short time. They grasp new details quickly. However, beyond a certain point they have very small capacity for further development. Regardless of how outstanding his early record, do not add fresh responsibility too fast until the employee has proved beyond question that he can maintain a steady growth of ability. In other words, be very sure his early success does not represent anything more than a quick arrival at his natural ceiling.

4. Management in the mill may set ceilings decidedly lower than the worker's natural level by grouping him with others not his equal in this respect. He learns how little he need exert himself to hold his job, and he pegs his ceiling at that point. In time, he may even lose the ability and ambition to go forward. Vaguely he feels himself capable of better things, blames the management of the mill for never giving him a chance, and ends by doing less than he could for himself and the mill.

5. You cannot keep an employee engaged month after month with mill work that offers no incentive or challenge and then expect him to meet the situation when responsibility is suddenly given to him. Ability wastes away through lack of use. An artificially low ceiling placed on his capacity for thinking may in time be accepted as his own measure of himself. Part of wise management consists of spotting the workers with high potential ceilings, and then aiding them in avoiding the pitfalls outlined above. (*R-504, George M. Dodson, Harrisburg, Pa.*)

Stroboscope Shows Winding of Roving

A simple method can show the stroboscopic effect used to determine speeds and analyze the actions of moving parts in textile mills.

The electrical stroboscope measures the speed or revolutions of a moving body by intermittent light flashes. The frequency of these flashes can be controlled, and the number per unit of

TEXTILE TICKLES . . . . . *By Edgar Allen, Jr.*

"May we look at your engagement rings?"

There's Plenty of SOCK

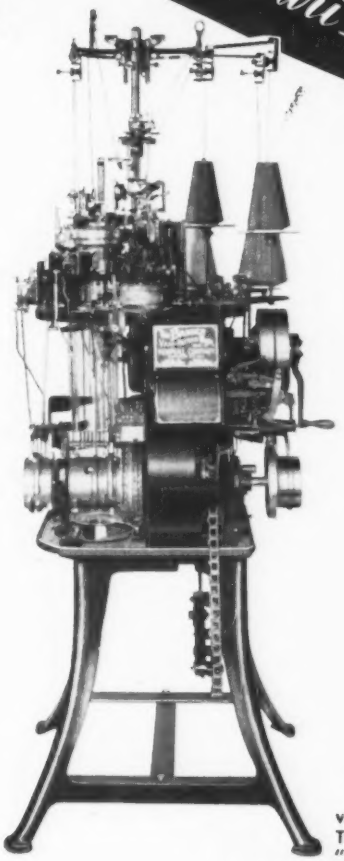
LOW PRICE!
Low price of this new machine is in direct contrast to its amazing versatility and high performance.

EASY PATTERN CHANGEOVER!
Pattern disks quickly and easily changed without any, or at minimum cost.

SIMPLE OPERATION!
One operator can easily and efficiently take care of a large battery.

4 GAUGES & 3 SIZES!
3¼" cyl. 18-24-36-48 ga.
3½" cyl. 18-24-36-48 ga.
3¾" cyl. 18-24-36-48 ga.

RIGID, STURDY CONSTRUCTION!
Low center of gravity for high speed operation.



HIGH PRODUCTION!
Double Feed and High Speed. Up to 7 dozens of fancy hose in 8 hours.

EXTENSIVE PATTERN VARIETY!
Tremendous range of patterns and colors in all gauges and diameters from any type yarn.

SIMPLE & EASY TO MAINTAIN!
All vital adjustments accessible to fixer at front of machine.

Model HTF-49

Low price! High performance! Amazing versatility and simplicity of operation! That's the profit story in the new Hemphill "Vari-Pattern" hosiery knitting machine. And Hemphill's Fabric Research Department will assist you in developing its full capacity.

Find out how the "Vari-Pattern" can point the way to new volume—new business—new profits! Find out from a Hemphill sales engineer. Address Dept.1 today.

HEMPHILL BANNER MACHINES
Shaping Hosiery's Footprints All Over The World!

HEMPHILL COMPANY
MAIN OFFICE AND PLANT: PAWTUCKET, R. I., U. S. A.
Makers of Banner Hosiery Machines
Agents In Principal Cities Throughout The World
Offices: Empire State Bldg., New York 1, N. Y. – Security Bank Bldg., High Point, N. C. – Export Office: 25 Beaver St., New York 4, N. Y.

A NEW Machine for NEW Business—NEW Profits!

Only $2.98 helps put new "sell" in television advertising

Sponsor of television show had to refilm his commercials to meet a new selling problem. New films picked up at studio 4 P.M., delivered to TV station 800 miles away 8:47 P.M. same evening. Air Express cost for 11-lb. carton, $2.98. (In *undramatic* fashion Air Express keeps radio, television or any business rolling.)

Remember, $2.98 bought a complete service in Air Express. Rates include door-to-door service and receipt for shipment—plus the speed of the *world's fastest* shipping service.

Every Scheduled Airline carries Air Express. Frequent service—air speeds up to 5 miles a minute! Direct by air to 1300 cities; fastest air-rail to 22,000 off-airline offices. Use it regularly!

Only Air Express gives you all these advantages

Nationwide pick-up and delivery *at no extra cost* in principal towns, cities.

One-carrier responsibility *all the way;* valuation coverage up to $50 without extra charge. And shipments always *keep moving.*

Most experience. More than 25 million shipments handled by Air Express.

Direct by air to 1300 cities, air-rail to 22,000 off-airline offices.

These advantages make Air Express your best air shipping buy. Specify and use it regularly. For fastest shipping action phone Air Express Division, Railway Express Agency. (Many low commodity rates in effect. Investigate.)

SPECIFY AIR EXPRESS
AIR EXPRESS
GETS THERE FIRST

Rates include special pick-up and delivery door to door in principal towns and cities

AIR EXPRESS, A SERVICE OF RAILWAY EXPRESS AGENCY AND THE
SCHEDULED AIRLINES OF THE U.S.

Round Table

(Continued)

time are indicated on the instrument.

The optical principle involved is the retention of successive flashes on the retina of the eye. When these flashes are exactly synchronized with the movement of a visible spot on the moving part, the part appears to be stationary. The speed of the moving part can be determined, and an analysis of its action can be made with the same facility as with a stationary object.

A simple demonstration of eye-retina (retentivity of vision) has been shown by the following manner: an empty 10x5 roving-frame bobbin was painted on the top (across the spindle hole) with a medium dark-gray stripe ⅛-in. wide. This bobbin was then placed on the bobbin bolster in the regular manner at the beginning of a new doff, and the frame was started up.

By looking down on the top of this bobbin in motion, through the arms of the revolving flyers, its slow motion could be easily seen. The speed of a bobbin on a bobbin-lead roving-frame is the sum of the speed of the flyers plus sufficient surface speed of bobbin to wind on the roving delivered by the front roll.

The stroboscopic effect here caused the eye to deduct the speed of the flyers from the total speed of the bobbin so that all that was consciously visible was the excess speed of the bobbin over that of the flyers.

This simple experiment has aroused great interest. Some heavy thinkers invariably raise this question: "If the flyer has two arms and therefore causes two interruptions per revolution, why would not twice the number of flyer revolutions be deducted from the compound bobbin speed?" (*R-503, Lowell, Mass.*)

Basis for Nep Count 100 Sq. In. of Web

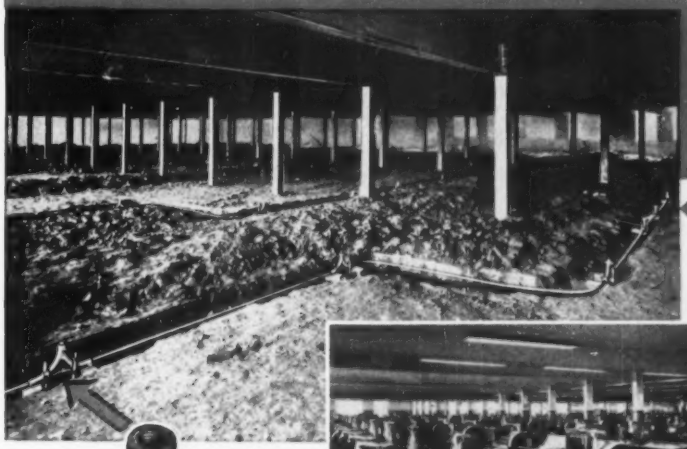
My object is to spotlight a report that appeared in a recent issue of TEXTILE WORLD which showed carding practices of various Alabama mills. Among other things, the report of one mill gave "Neps per sq. in. of web" as 42, with the number of neps increasing to 65 after 600 hr., and then on to 69 for 1,008 and 1,200 hr.

Now, the technologists give the following ratings for neps per 100 sq. in. of card web:

1 to 15 low
16 to 25 average
26 to 40 high
Above 40 very high.

Your reported figures were probably

CROUSE-HINDS Large Radius Tees and Elbows . .



An electrical conduit installation using Crouse-Hinds Large Radius Type ET Tees in a mill before the concrete floor has been poured.

The same mill completed.

Type ET

Type ELB

Type EY

. . . simplify electrical conduit installation in concrete floors

Where electrical conduit is concealed the use of Crouse-Hinds Cast-Feraloy Large Radius Tees and Elbows results in substantial savings in installation and in maintenance.

Saves Material. These *CONDULETS eliminate the necessity for flush floor boxes.

Easy To Wire. The wires can be brought directly up to junction CONDULETS or motor controllers, where it is easy to make the necessary taps and splices.

Maintenance Reduced. Taps and splices are out of reach of oil, water, or cleaning solutions that may be on the floor, completely eliminating future difficulties from this cause. If necessary, any portion of the sectionalized circuit between two tees can be readily replaced.

Crouse-Hinds Large Radius Tees and Elbows are equally useful for ceiling and sidewall outlets. These CONDULETS are made of cast Feraloy, which is inherently corrosion-resistant. The hubs have the CONDULET features of tapered threads and integral bushings, designed for easy fishing. Lugs are provided for anchoring to concrete forms.

These CONDULETS are listed on Page 14, Section 65, CONDULET Catalog 2500. The complete CONDULET line consists of thousands of items . . . . engineered to enable the electrician to do the job and do it right.

*CONDULET is a coined word registered in the U. S. Patent Office. It designates a product made only by the Crouse-Hinds Company.

A Nationwide Distribution Through Electrical Wholesalers

CONDULETS
FLOODLIGHTS
TRAFFIC SIGNALS
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CROUSE-HINDS COMPANY
Syracuse 1, N. Y.

Offices: Birmingham – Boston – Buffalo – Chicago – Cincinnati – Cleveland – Dallas – Denver – Detroit – Houston – Indianapolis Kansas City – Los Angeles – Milwaukee – Minneapolis – New York – Philadelphia – Pittsburgh – Portland, Ore. – San Francisco Seattle – St. Louis – Washington. *Resident Representatives:* Albany – Atlanta – Charlotte – New Orleans – Richmond, Va.

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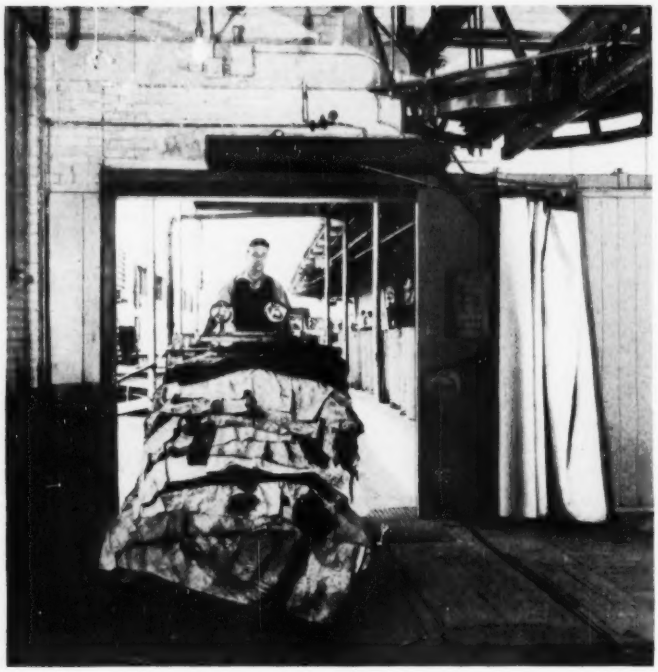

INCREASE PRODUCTION

WITH NON-STOP PLANT TRAFFIC!

It may take only seconds to open an ordinary door, but multiply those wasted moments by all the doors in your plant — by all the times they're opened and closed in a month — and you can see where you've lost a lot of time and effort.

Stanley Magic Doors will pay for themselves many times over in increased production by speeding up plant traffic — cutting materials handling time. Actuated by a photo-electric "eye", Magic Doors open instantly and automatically on approach, stay open till the passage is clear, then close quickly and silently. They eliminate damage to products and doors from banging. They make heating, humidification and air conditioning more efficient.

Stanley Magic Doors have been proved efficient by years of trouble-free operation in plants all over the country. They are easily adaptable to either swinging or sliding doors, or a combination of the two, and can be designed to suit practically any requirements of space or location. Get full information on what Stanley Magic Doors can do for you by mailing this coupon now.

STANLEY DOOR CONTROLS
Reg. U.S. Pat. Off. — The Magic Door —

— HARDWARE • HAND TOOLS • ELECTRIC TOOLS • STEEL STRAPPING —

The Stanley Works, Magic Door Div., 107 Lake St., New Britain, Conn.

Gentlemen: Please ( ) Send full information on Stanley Magic Doors.
( ) Have your representative call on us.

Name .....

Firm Name .....

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City ..... State .....

Round Table

(Continued)

meant to be based on 100 sq. in. of web rather than 1 sq. in. But even at that, why would a carder run 600 hr. making 69 neps per sq. in. without grinding?

The last nep count I saw from a mill carding 1⅛-in. Middling cotton was 23 per 100 sq. in. The production rate was 11 lb. per hr. (*R-501*) *Kannapolis, N. C.*

The article referred to was "How to Improve Carding Discussed by Alabama Men," on page 147 of the Feb., 1949, issue. The nep counts appeared excessive because of a typographical error in omitting decimals. The figures 42 and 69 should have been 0.42 and 0.69 neps per sq. in. of card web. Cotton was ⅜ and ⅝ in.

Of course, in terms of 100 sq. in. of web, the counts would be 42 and 69, as the author of *R-501* points out.

As to why a carder would run his cards 600 hr. with a nep count of 69, the answer is that he didn't. The nep counts reported were obtained on a very few cards (the exact number was not given) set aside for these test runs. The number of hours between grindings ranged from 0 to 1,200 and were labeled in the article as "Experimental intervals between grindings."

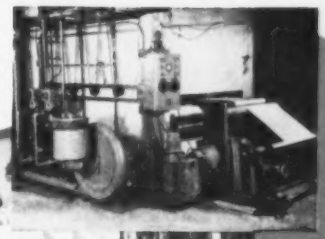
The nep count of 23 per 100 sq. in. cited by *R-501* in the last paragraph as occurring in one mill probably is nearer mill averages than the 42 neps with which the experiments started and which, presumably, is something near normal for the mill that made the report. However, the importance of nep count is entirely relative, in the same manner that breaking strength, size content, etc. are relative.

As indicated in the article, neps can almost certainly be reduced by using a more mature cotton, slowing down the speed of opening machines, and decreasing the carding rate. But the quality of fabric the mill makes dictates cotton quality and machine speeds. If the customer can use cloth with 42 neps, he won't pay the mill to spend the money necessary to reduce them to 23.—Editor.

Industry Needs Wool-Top Standards

In the last four years, we have made considerable headway in establishing standards for quality and length. I think it would be in the interest of worsted spinners to establish standards for the nep content of the various grades of wool tops. Most spinners look at the tops from this angle, but

CORONIZING—the heat-setting process, plus permanent lubricants. Penetrating heat provides a permanent crimp in the yarns, giving a soft hand, texture, and pliability, and a resistance to wrinkling. Additional steps provide wearability and the all-necessary water repellency.



Now..perfected
textile characteristics
in glass fabrics!

CORONIZING*..

the finishing touch

FOR FABRICS WOVEN OF FIBERGLAS* YARNS!

FIBERGLAS YARNS AND CORONIZING... gave these sensational selling advantages to marquisettes—no ironing, stretching, or altering—they wash and hang in 7 minutes. Added values—they're sun-fast, mildew-proof, rot-proof, water repellent . . . will not burn!

And now the next textile development—silk-screened Coronized draperies that can be laundered as well as dry cleaned—with all of the features that have made the marquisettes so popular.

These are only examples of the possibilities inherent in this revolutionary new glass fabric finishing technique developed in the Owens-Corning Fiberglas laboratories. Coronizing has vastly extended the uses for Fiberglas yarns, and opened up new opportunities to the weaver, finisher and converter.

For further information—or an appointment with a technical representative—write or phone, Owens-Corning Fiberglas Corporation, Textile Products Division, 16 East 56th Street, New York 22, N. Y.—Plaza 9-3810.

*Fiberglas, Coronize, Coronized and Coronizing are trademarks of Owens-Corning Fiberglas Corporation.

Owens-Corning Fiberglas Corporation produces Fiberglas Yarns and Coronizes Marquisette woven of such yarn—it does not weave or manufacture finished curtains.

OWENS-CORNING FIBERGLAS *Yarns*

 For more information, write direct or use Reader Service post card.

The Spindle with a Future!

YOUR PRESENT SPINDLES PRECISION GROUND AND EQUIPPED WITH THE **REGNERY ALUMINUM SPINDLE ADAPTER** HAVE "BUILT-IN" BALANCE FOR LONG LIFE AND IMPROVED SPINNING

The tried and proven conventional type of standard base, bolster and a spindle with a record for low cost operation and maintenance, with the REGNERY adapter has a larger package and improved spinning at a low conversion cost.

THESE ARE THE ESTABLISHED FACTS!

—the results of over 600,000 warp spindles converted with the REGNERY adapter now in operation:

1. More yarn per bobbin.
2. A smoother spinning unit.
3. Less ends down with better quality work.
4. Less waste in spooling operations.
5. A more uniform traverse.
6. A trouble-free, permanently "locked-in" spindle and adapter.
7. A savings in doffing and spooling costs.
8. Lower bolster replacement costs.

COMPARE THE RESULTS! ***Lower Your Production Costs.*** Modern top drive adapters for the tapered or parallel bobbins can be installed in your mill quickly and easily to your specifications. We can also offer you uniform spinning throughout your mill when part of your spinning is on paper tubes.

CONCENTRICITY IS OUR BUSINESS!

Send for descriptive folder

F. L. REGNERY Corp.

613 WEST 16TH STREET.....CHICAGO 16, ILLINOIS

For more information, write direct or use Reader Service post card.

Round Table

(Continued)

every spinner has different ways of making nep counts which make comparisons very difficult. I suggest that we get together on this point. Coupled with the standards that we already know, each wool top quality could be properly rated as A, B, and C types.

If this could be achieved, a top quotation would actually mean something. At the present time, the terms of Super or Warp tops are used very freely, only to increase the commercial appeal of a given quotation without being reflected in the quality of the product.

This picture could be completed by a yard-per-yard evenness rating. This may, however, have to wait until sliver testers will be more generally adopted.

I offer these suggestions to my confreres and would greatly appreciate other expressions of opinion. *(R-450, F. E. Cleyn, Huntingdon, P. Q., Canada)*

Farewell From a Retired Subscriber

Please do not renew my subscription to TEXTILE WORLD. I give up your valuable trade journal with regret. I read it with interest and profit at first under Hinds and Harrison Plush Co., then in later years under my own subscription.

Our company, Clark Mills, was sold in August, 1943; and the workmen were gradually laid off. My turn came in 1946 after 36 years as dyer and chemist. Though I applied for many jobs, at 67 (now 70) years I must be too old for reemployment. And so after 50 years in the textile industry, I must say goodby to you. Thanking you for much good reading and learning, I wish you good luck. *(R-476, Alfred E. Rhodes, Clark Mills, N. Y.)*

Front and Back Rolls Were Switched

Attention has been called to an error in roll settings listed in the table "Drawing, Roving, Spinning Data" on page 109 of the September issue.

The settings were given as follows:

	Drawing	Intermediates	Speeders	Spinning
Back	1 7/16	(same)	(same)	1 3/16
Middle	1 9/16	(same)	(same)	
Front	1 11/16	(same)	(same)	1 5/16

The settings are correct, but the designations "back" and "front" are reversed. In other words, the 1 7/16-in. drawing-roll setting is the front setting instead of the back setting as listed. The 1 11/16-in. setting is the back setting and not the front. The middle settings are correct as listed.—*Editor*

READER-SERVICE DEPARTMENT

This four-page insert is at your disposal to help you derive increased benefit from your readership of TEXTILE WORLD. We hope you will study it, get well acquainted with it, and use it freely.—The Editors.

TO COMMENT on anything about TEXTILE WORLD, use the card below. We hope you will use it to give us your opinion, favorable or unfavorable, on any editorial material in order to help us serve you better. Use it to discuss textile-manufacturing problems, perhaps enlarging on something already printed, for publication in the Round Table department. Use it to tell us what you would like to see published to help you with your mill problems.

TO INQUIRE about any mill problem you may have, use the card below. If you have a technical question, submit it to our Questions and Answers department. Be sure to give as complete details as possible so that your question can be fully understood.

TO CONTRIBUTE kinks, textile-news notes, or other brief material, use the card below. If you have some useful idea for cutting costs, improving quality, or increasing production, enter it in our KINK CONTEST. We also warmly welcome queries as to the probability of our accepting for publication any specific articles you may contemplate writing for us.

☆

SEE FOLLOWING PAGES FOR ADDITIONAL SERVICES OFFERED

USE THIS CARD

Dear Editor:

(over)

MANUFACTURERS' BULLETINS

FREE FOR THE ASKING

Reviewed here is the outstanding trade literature of the month. Items are listed one month only—no repeats. Mill executives may request copies of literature by using cards on the next page.

Steel fabrications to individual specifications are described in a bulletin released by Truitt Mfg. Co. Items from a small brace to a huge wind tunnel are featured in the photographic sections of the bulletin. An illustrated trip through the plant shows the modern manufacturing facilities. **(F-1)**

Direct readings of relative humidity and temperature are made possible with a portable indicator described in a folder issued by Buensod-Stacey, Inc. A description of the instrument is followed by a section devoted to operating instructions and precautions to be followed. **(F-2)**

Loom motors now available in standard or flywheel types are discussed in a new catalog published by General Electric. The motors, of the totally inclosed, polyphase induction type, are described in detail. Special sections are devoted to new bearing design, tougher physical protection, better electrical protection, and more convenience features of the ¾- to 2-hp. motors. **(F-3)**

Lubrication of electric motors is the subject of a bulletin published by New York & New Jersey Lubricant Co. The pamphlet discusses proper lubrication of the ball- and roller-bearing types as well as the ring-oiling bearing electric motors. **(F-4)**

Conveyor belts with a non-skid cover are described and illustrated in a folder prepared by The B. F. Goodrich Co. Case studies show how the new belt conveys materials at angles of incline too steep for conventional belts. Bulk materials and packages are shown to be handled with equal ease. **(F-5)**

A new chlorine safety-precaution chart has been brought out by Allied Chemical & Dye Corp., for persons or companies using or handling liquid chlorine. The chart contains information regarding emergency procedure in case of leakage, first-aid recommendations, and general chlorine-handling precautions. **(F-6)**

Production equipment for the apparel and textile industries is featured in a folder made available by Cutting Room Appliances Corp. An electromatic cloth spreader is shown, as is a measuring and inspecting machine. Sectional metal cutting tables and an electric knit-goods laying-up machine are also featured. **(F-7)**

Prepacking—the idea of factory packaging in selling units—is discussed in a booklet published by The Hinde & Dauch Paper Co. Problems in connection with prepacking, advantages of the idea, and descriptions of typical successful applications are included in the booklet. **(F-8)**

Construction costs and the benefits accruing from a correctly located and designed plant are discussed in a forthright manner in a memorandum prepared by The McPherson Co. Variations up to 50% in first cost with no corresponding increase in usefulness are shown to be possible. **(F-9)**

Bagging and sewing machines are featured in three leaflets from N. W. Harrap, Ltd. Features of the bagging machine are pictured and described, and a detailed cross-section shows the stitch mechanism. Piece-end sewing machines of both the motor-driven and foot-driven types are featured in the other two leaflets. **(F-10)**

Overhead materials-handling systems are described in detail in a bulletin issued by Whiting Corp., Harvey, Ill. Crane systems, suspension fittings, monorails, crane runways, and joining fittings are included in the bulletin. Load data, sketches, and pictures are given for each product. Several pages are devoted to carriers and their specifications. **(F-11)**

A spinning attachment, Hegemax, which is claimed to give higher efficiencies and lower costs, is described in a pamphlet issued by Neotex Ltd. Sketches show twist and tension between front rolls and thread guide, for both the normal process and this newer method. Mill test results are combined to show percentage savings possible. **(F-12)**

Oilless bearings for the textile industry are featured in a folder from Arguto Oilless Bearing Co. Thirty-two standard bearings are sketched, and data on whiproll bearings and parallel plugs are also given. **(F-13)**

High silicon-iron alloys for corrosive services are featured in a bulletin published by The Duriron Co., Inc. Tables give chemical composition as well as mechanical and physical properties. Detailed data on hydrochloric- and sulphuric-acid resistance are followed by brief information on over 150 chemical products. **(F-14)**

Coated-abrasive products—their manufacture and uses—are the subject of a book published by The Carborundum Co. The book takes readers on a conducted tour of the newest plant of the company and also gives pertinent information on company grinding laboratories located throughout the country. **(F-15)**

Substantial economies in the cleaning of textile-mill machinery are described in a report issued by Oakite Products, Inc. Dealing with composition No. 99, the report outlines its use in varying dilutions and methods of application. **(F-16)**

The work of the Avisco Staple Development Plant, Nitro, W. Va., is described in an illustrated booklet published by American Viscose Corp. Information on the purpose and background of the plant is followed by a description of its operation. New-product developments are also shown. **(F-17)**

Visual oilers of several types are featured in a booklet prepared by Gits Bros. Mfg. Co. Endorsements from equipment manufacturers and engineers are followed by catalog information on each oiler, including picture, capacity, thread, dimensions, and prices. **(F-18)**

V-belt loom drives engineered for individual requirements are shown in a folder made available by Owen-Richards Co., Inc. Loom-side mountings, end-frame mountings, and top mountings are pictured. **(F-19)**

Uses and properties of eight new glycols are described in a booklet published by

---

From (give real name):

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When published print:

- ☐ my real name
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TEXTILE WORLD

330 WEST 42nd STREET

NEW YORK 18, N. Y.

McGraw-Hill Publishing Co., Inc.

Carbide & Carbon Chemicals Corp. Specific glycols include butanediol-1, 3; pentanediol-2, 4; the two six-carbon diols; heptanediol-2, 4; ethylhexanediol; and two substituted 1, 5-pentanediols. Uses have been tabulated by product and industry for quick reference. **(F-20)**

Drying and singeing equipment is shown in a folder from Industrial Heat Engineering Co. Among the units featured are: cloth dryer, singeing machine, warp dryer, resin-curing machine, unit heater, and tenter dryers. Oil- and gas-firing equipment is also listed. **(F-21)**

Having any slashing troubles? What is claimed to be a sure cure for such ills is described in a booklet made available by West Point Foundry & Machine Co. Special features and equipment of the new cotton slasher are shown. **(F-22)**

Removing of impurities from a liquid by precipitation, adsorption, settling, and upward filtration is discussed in a bulletin from The Permutit Co. Operation of the precipitator is throughly described; and savings in ground space, chemicals, and time of treatment are set forth. **(F-23)**

Three bulletins on finishing equipment have been prepared by Winsor & Jerauld Mfg. Co., Inc. A streamlined tenter, cloth guiders, batchers, and tenter clips comprise the subject matter of the publications, which give general consideration and description of each. **(F-24)**

Ball-bearing units for slashers are described in two leaflets made available by Precision Gear & Machine Co., Inc. One leaflet describes size-roll units for No. 7 Saco-Lowell and Cohoes slashers. The second leaflet is devoted to creel stands for any type of rayon or cotton. **(F-25)**

The roll picker, a new cleaning tool for spinners, is described in a bulletin from Skilsaw, Inc. Details of specifications and accessories are supplemented by operational photographs and a discussion of the advantages offered by the new unit. **(F-26)**

Do you handle or move rolls, barrels, drums, or keys in a yarn plant? You will be interested in a folder prepared by Ironbound Box & Lumber Co., Hillside, N. J. Two models of a roll truck are described in detail. A series of sketches illustrates the simplicity of operation of the unit by one man with no power supply and with very little physical exertion. **(F-27)**

Moisture content of fabrics or warps in any drying unit is said to be accurately determined electronically with a Drimeter, according to a series of leaflets made available by Fielden Electronics, Inc. Details of operation with and without automatic control are discussed. **(F-28)**

pH test papers in a variety of ranges are described in a series of folders issued by Palo-Myers, Inc. Both short- and wide-range papers are offered, and several combinations of papers and dispensers are shown. Sharp color change within 0.2S pH unit can be possible, according to the literature. **(F-29)**

Basic tools for industrial maintenance are featured in a folder from The Kent Co. Four units shown are: wet scrubber and electric mopper, dry scrubber, dry suction with giant reach, and routine dry suction. **(F-30)**

Full-fashioned knitting machines are described and illustrated in a booklet published by Karl Lieberknecht, Inc. Distinctive features of design and operation are shown, as is the unique method of assembled delivery. Each feature is shown in a clear closeup view which makes for easy understanding of operation. **(F-31)**

"Industrial Uses of Radioactive Materials" is the title of a bibliography prepared by Arthur D. Little, Inc. A section is devoted to textiles which lists several works in the field, including the TEXTILE WORLD "Tagged Atoms" story. **(F-32)**

Complete boiler water-treatment to provide properly conditioned boiler water by the most practical and economical means is discussed in a booklet made available by E. F. Drew & Co., Inc. Both chemical and organic treatments, externally and internally, are included. **(F-33)**

CARDS ON THIS PAGE are for the use of mill executives in writing for manufacturers' bulletins reviewed here, as well as for additional information about items appearing in our TEXTILE EQUIPMENT NEWS, NEW DYES AND CHEMICALS, and USEFUL ACCESSORIES departments, or in the ADVERTISING PAGES.

Write in the box of any one coupon the letter and number printed at the end of the editorial item that interests you. In the case of advertisements, enter the letter A followed by the page number. If there is more than one advertisement on that page, please add the initials of the manufacturer. In every case, we'll advise the manufacturer as to what you want in order that you may receive the reply direct from him.

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2. Use bottom card only if making one to four requests, both cards if making five to eight.

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City Clearview. State N.C.
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330 WEST 42nd STREET

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McGraw-Hill Publishing Co., Inc.

Measurement of thickness and resilience of compressible and deformable materials are covered in a folder issued by Gustin-Bacon Mfg. Co. The system described is said to be particularly adaptable to mats and blankets of loosely associated materials such as jute, sisal, wool, glass fibers, and the like. **(F-34)**

Individual card drives for existing as well as new installations are described in a bulletin from Odell Mill Supply Co., Greensboro, N. C. A history of the development of this card drive includes a discussion of the advantages claimed for the unit. **(F-35)**

A micrometer for continuous production measurement is featured in a release made available by Raymond M. Wilmotte, Inc. Textile applications of the electronic device include extruded plastics, coated filaments, yarn, and sheet products, according to the release, which also shows a schematic diagram of the measuring system. **(F-36)**

Details of a combing attachment for the blending feeder and a parts list for the device are included in a folder published by Salisbury Iron Works, Inc. The device is said to replace the old rotary kick-off roll, and is used on all fibers. **(F-37)**

"Undies with Personality" is the title of a booklet on shaped underwear prepared by Mellor Bromley & Co. Ltd. The publication describes the fully automatic, rib-jacquard, needle-transfer machine. A companion booklet features a jersey-jacquard machine. **(F-38)**

An insulation and resistance tester of the heavy-duty type is described in a bulletin published by James G. Biddle Co. Detailed specifications and characteristics are furnished for the hand-driven, motor-driven, and multi-voltage units. Selection of proper instruments for specific problems is simplified by the bulletin. **(F-39)**

A bulletin describing a sound movie on materials-handling techniques has been prepared by Towmotor Corp. Titled "The One-Man Gang," the production takes its audience into the plants of leading manufacturers to show the exact methods of reducing the high cost of mass handling. **(F-40)**

Opening and picking machinery is the subject of a pair of folders published by H & B American Machine Co. Both folders emphasize the importance of a good beginning in textile operations if a good end-product is expected. **(F-41)**

Totally inclosed, fan-cooled motors with tube-type heat exchangers are described in a bulletin released by Allis-Chalmers Mfg. Co. According to the bulletin, the problem of efficiently removing heat losses without exposing electrical parts to harmful atmospheric conditions has been solved in these motors, which are available in squirrel-cage, wound-rotor, and synchronous types. **(F-42)**

Textile-finishing equipment is the subject of a colorful catalog issued by Proctor & Schwartz, Inc. The units featured are: super-speed dryer, suction-cylinder dryer, roller-dryer and curer, loop-dryer and curer, pin tenter, multi-pass airlay dryer, and slack dryer. **(F-43)**

Four textile uses of Syton, an amorphous silica dispersion, are described in four pamphlets made available by Monsanto Chemical Co. Worsted and woolen spinning, and carpet-manufacturing uses are discussed. Each booklet contains chemical and physical data along with recent mill test results. **(F-44)**

Sewing-machine users will be interested in a bulletin just released by Willcox & Gibbs Sewing Machine Co., which describes the "Flatlock" machine. **(F-45)**

A different type of materials-handling unit—one which automatically raises and lowers materials to a convenient working level—is described in a folder published by American Machine & Foundry Co. The folder shows how keeping materials at the same level helps increase floor space, reduce damaged parts, and prevent accidents. **(F-46)**

Too hot in your mill last summer? Now is the time to start thinking about cooling it off. Chelsea Fan & Blower Co., Inc., has prepared a catalog of industrial and commercial fans. Information given includes fan diameter, capacity, motor horsepower, shipping weight, and price. **(F-47)**

Electrical industrial trucks and tractors of 20 different types are illustrated in a bulletin made available by Crescent Truck Co. Pallet trucks, tractors, and platform trucks are shown. A questionnaire for determining the correct type and model of truck is included. **(F-48)**

A drum truck which rotates for ease in mixing, blending, tumbling, and cleansing is featured in a leaflet published by Morse Mfg. Co., Inc. The leaflet states that the unit can be used for 1- to 55-gal. cylindrical containers, with loads up to 500 lb. at various rpm. **(F-49)**

A warm-air heater which can be fired either by oil or gas is described in a bulletin issued by Dravo Corp. In addition to its primary use for comfort heating, the bulletin states, the heater can provide ventilating aid, process drying, tempering of makeup air, and heat curing. **(F-50)**

Textile chemicals for lubricating, softening, static control, sizing, scouring, and finishing, and their uses and properties are discussed in a booklet available from American Viscose Corp. **(F-51)**

"Style ideas can be no better than the machines that make them possible," says a new folder produced by H. Brinton Co. The folder describes the Brinton three-position-pattern-wheel machine which can produce plaids, jacquards, vertical variable-striped and patterned effects in almost unlimited color combinations and design variations. **(F-52)**

Textile homogenizers and their application to slashing and finishing are described in a new booklet offered by Manton Gaulin Mfg. Co. Advantages, construction, operation, and specifications of all models are covered in text and illustrations. **(F-53)**

Corrosion-service piping is the story of a comprehensive treatment on stainless steel and nickel alloy anti-corrosion and anti-contamination piping published by Taylor Forge & Pipe Works. Economics, standards, advantages of welding, extensive technical data, design tips, and complete dimensional information on stainless fittings and flanges are included in the 32-p., profusely illustrated bulletin. **(F-54)**

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McGraw-Hill Publishing Co., Inc.

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TEXTILE WORLD, New York 18, N. Y. (Dec. '49)

Questions AND Answers

Card-Flat Strips Combed at Back of Card

Technical Editor:

The article on cotton-mill waste in the August issue of TEXTILE WORLD mentioned, on page 133, a mill that reworks card-flat strips automatically. The flat comb was moved from the front of the card to the back so that flat strips would fall on the lap going into the licker-in.

Although this idea is not new, we think that we might use it on some of our cards running waste work.

Can you tell me just how the mill mentioned has the flat comb mounted at the back of the card? Did the mill develop its own necessary parts, or are the parts available from the card manufacturer? (9340)

So far as we know, mills using this method of reworking flat strips by combing the strips from the back of the card and permitting them to fall on the in-going lap have developed the system in their own plants.

Details of parts and the method of driving the comb will vary on different makes of cards. It will be found that most standard parts can be adapted with little change for this purpose. In one change-over for experimental purposes, it was found that on a left-hand card the flat and comb drive from a right-hand card could be used with little modification for combing strips from the back of the card.

There is one important point to be considered. The combing must be done on the up stroke of the comb because of the reversed position of the knee in the flat-clothing wire. This knee position necessitates a greater angle between the blade of the comb and the flat, so that strips will fall from the comb to the lap. The best position of the comb blade can be determined by trial.

A thin, smooth, inclined plate of metal or wood should be placed over the licker-in bonnet to guide the strips onto the lap near the feed roll.

In the experiments mentioned, the direction of the motion of the flats

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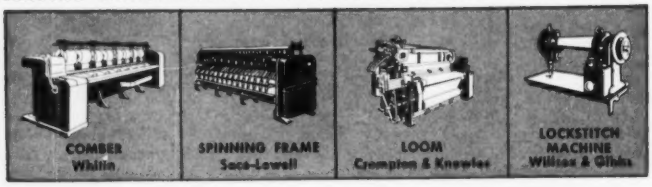
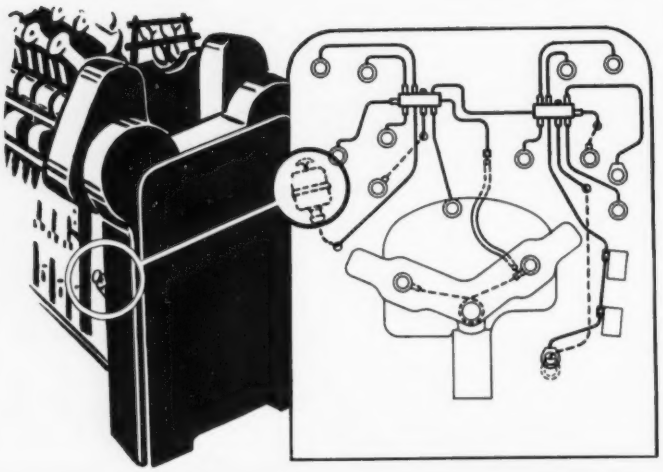


continuous production



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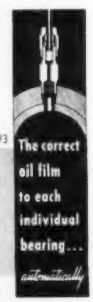
You don't have to shut down a Bijur-lubricated machine to oil it. The lubricator (circle) oils the machine during operation. In this way costly down-time for lubrication is converted into more time for production.

Maintenance time is further cut by the Bijur system of Meter-Unit control. This method reduces bearing wear by controlling oil film at each individual bearing automatically. To assure peak production over a long period, specify the Bijur system when ordering new machines. For further details, write for Bulletin 6A, "Metered Lubrication of Textile Machinery."



393

BIJUR
LUBRICATING CORPORATION
LONG ISLAND CITY 1, NEW YORK

Questions and Answers

(Continued)

was not changed from standard, and the speed of the flats was unchanged at 3 in. per min. One disadvantage found in the direction of flats was that the loaded flats were carried across the top of the card, and the long, spiral flat brush could not be used.

On certain types of work, it might be worth while to experiment with flats moving from front to back while the spiral brush remains in its present position. Settings of flats may need to be slightly wider in front to prevent quick loading of the flats. When the standard setting of flats to the cylinder is 0.010 in., it might be advisable to open the five setting points from front to back to 0.012, 0.012, 0.011, 0.011, and 0.010 in. Both front and back plates may need adjustment to give unbroken strips at these settings.

Practical Textile Drying Takes Place in Two Stages

Technical Editor:

I have a question regarding the drying of cotton yarn on packages. In order to make my question clear, I shall state briefly the information that I have regarding the subject.

According to the literature that I have consulted, the mechanics by which cotton packages dry place this process in the second zone of the falling rate period of drying; and during this period, relative humidity and air velocity have no effect whatsoever on the drying rate.

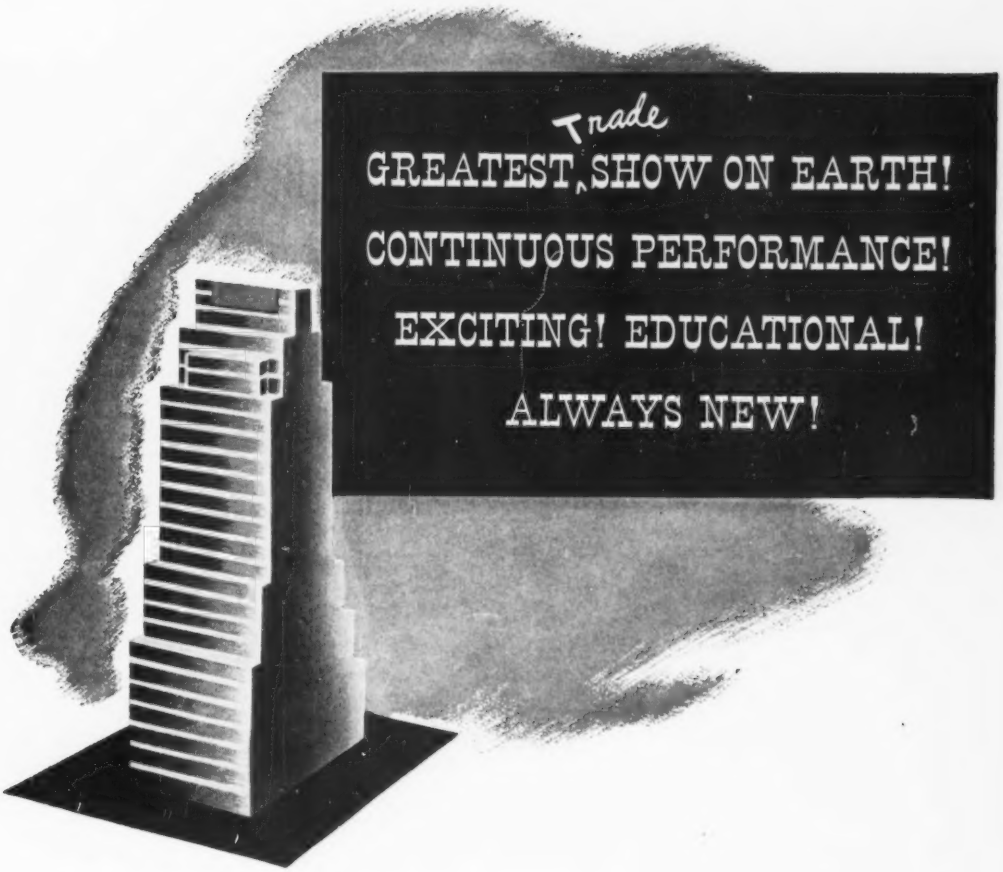
My question is: Do relative humidity and air velocity affect the drying rate of cotton yarn on packages? (9335)

Theoretically, drying may be divided into three stages. The first stage is the removal of surface water from a fabric or yarn; the second is the removal of water trapped in the interstices between fibers; and the third is the removal of "bound" water, or water that has attached itself to the cellulose molecule.

Practically, drying really consists of two stages. The first is the constant-rate-of-evaporation stage and the second is the falling-rate-of-evaporation stage.

In the first stage, most of the surface water, and perhaps some of the trapped water, is removed. If a constant temperature and air velocity are maintained, the drying rate can be plotted as a straight-line function of moisture versus time.

In the second stage, the drying time is considerably slowed down, even with constant temperature and air velocity, as the moisture content



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- **SAFE**—*to fabrics—high tensile strength and soft handle.*
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Textile manufacturers find Pennsalt H_2O_2 an ideal bleaching agent for wool, silk, rayon, cotton yarns and woven cotton fabrics.

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Potassium Persulphate · Anhydrous and Aqua Ammonia

Questions and Answers

(Continued)

diminishes. This drying rate can be plotted as a curved line.

A package dryer probably works largely in the second stage of drying, as most packages are first blown with warm air under a heavy pressure in order to remove most of the surface water. On the dryer itself, hot air is again forced through the package, inside out, with the carrier placed on a stand without any inclosure.

The rate of diffusion of the water inside the package to the package surface is dependent both upon the air pressure and temperature, but the rate of evaporation at the surface is dependent upon the temperature and the vapor pressure of the surrounding air as compared to the vapor pressure at the surface. Since the vapor pressure of the unheated air immediately surrounding the package is much lower than the vapor pressure at the surface, changes in humidity in the air would probably make slight differences in the drying rate.

Too high temperature and too high air velocity cannot be employed, since the inside of the package next to the spindle develops a dry area. In other words, the movement of moisture and air throughout the package must take place uniformly and at the velocity that the water can be moved without overdrying on the inside and a blocking of the multitudinous small openings at the outside.

For efficient drying, the air velocity and temperature should be kept as high as practicable. The size of the package and whether it is hard or soft wound has much to do with drying times.

Overdrying of the package at its center and too much trapped water at its surface can cause a serious slowing down in drying rate and also result in damage to the material itself.

Air and Humidity Do Affect Oven Drying

Technical Editor:

Do the velocity and humidity of the air circulated over yarn packages dried in a tray-and-oven dryer affect the drying rate? (9342)

In drying packages in a closed type of dryer, it is extremely important to remove the saturated air from the surface of the package, particularly at the beginning of the drying period, when a large quantity of moisture is retained in the package.

With poor circulation of air, the air in the immediate vicinity of the package quickly becomes saturated, or nearly so. Dissipation of water vapor

Rayon Reports

Prepared Monthly by American Viscose Corporation, New York, N.Y. DECEMBER, 1949

Heavier-Weight Rayons Now Appearing in Outerwear Fabrics

Rayon is appearing this fall in suits and coats for men, women, and boys, in new fabrics which are being closely watched throughout the textile industry. Price, wearability and style are strong arguments in its favor.

The rayon industry has seen this development coming for some time. Each improvement in rayon staple, and there have been many, has brought rayon closer to the goal. Higher tensile strengths were achieved and various degrees of luster and a wide variety of filament sizes and lengths. Recently, rayon staple has been given a permanent crimp. Concurrently, there have been important advances both in yarn and fabric construction and finishing, producing such essential properties as wrinkle resistance and shrinkage control. These developments bring with them unlimited possibilities for creative styling.

They make it possible for rayon to offer not only quality at low cost, but in addition to fulfill the demand for lighter-weight, clear finished fabrics — heretofore obtainable only with costly fine apparel wools.

There are sound reasons for expecting that rayon or rayon-and-wool year-round suitings will repeat the pattern established by the rayon summer suit, which in three seasons has advanced to a position of parity with the traditional tropical worsted.

Whether or not the heavier rayons adhere to the same time table, it seems safe to predict that rayon will be an increasing factor in the men's clothing industry.

The newest advertisement in Avisco's continuing campaign to build consumer acceptance for rayon in men's year-round suitings.

RAYON 20 YEARS AGO

NEW YORK, December, 1929—Women's rayon knitted pajamas are being featured by New York stores as a leading Christmas item.

PARIS, December, 1929—Rayon upholstery was seen on many cars at the Paris Automobile Salon. One especially made for the Sultan of Morocco was upholstered in red.

NEW YORK, December, 1929—Rayon alpaca is now being used to cover gift boxes. Cigarette manufacturers are particularly interested.

MAKE USE OF *Avisco*® 4-PLY SERVICE

To encourage continued improvement in rayon fabrics, American Viscose Corporation conducts research and offers technical service in these fields:

1 FIBER RESEARCH
2 FABRIC DESIGN
3 FABRIC PRODUCTION
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America's largest producer of rayon

Sales Offices: 350 Fifth Avenue, New York 1, N. Y.; Charlotte, N. C.; Cleveland, Ohio; Philadelphia, Pa.; Providence, R. I.

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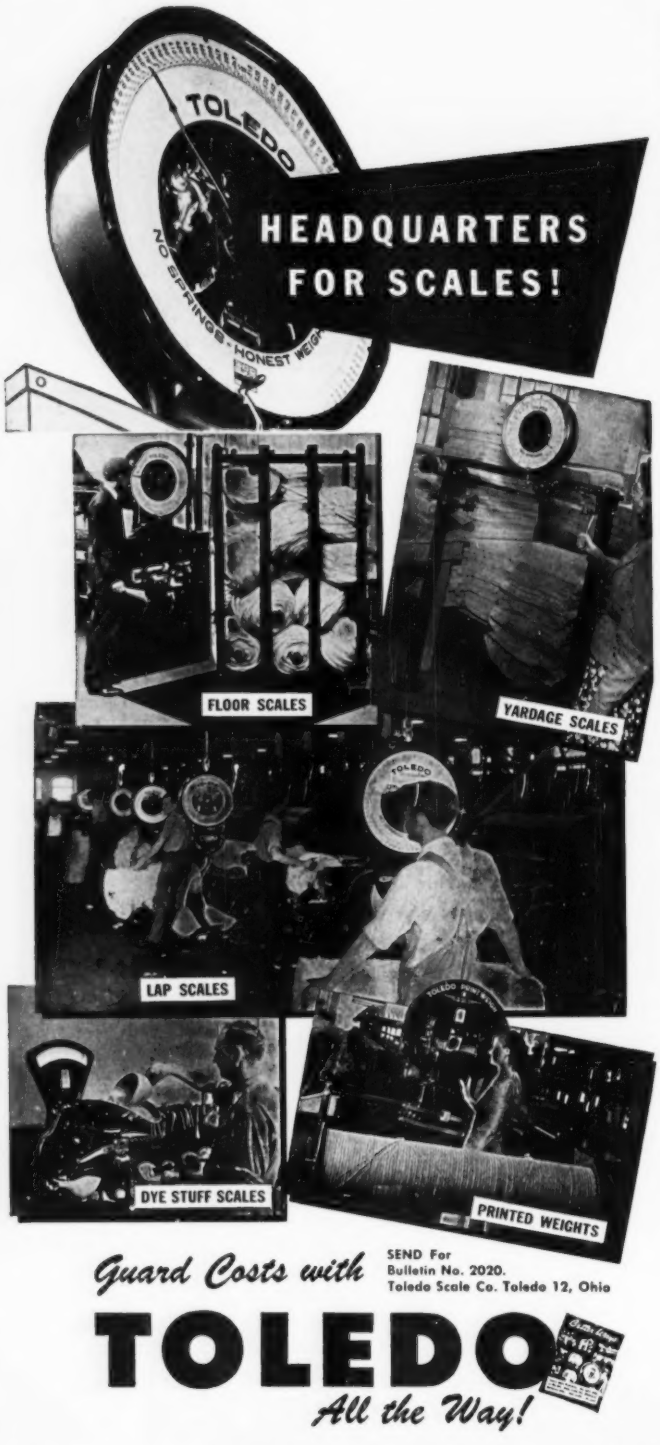

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SEND For Bulletin No. 2020. Toledo Scale Co. Toledo 12, Ohio

Questions and Answers

(Continued)

from this surface layer is slow unless artificial means are resorted to in order to move this layer of air away from the package and replace it with air having a low moisture content. This saturated layer acts as a wrapper around the package and prevents water vapor within the package from leaving the package.

Also, if a quantity of moisture-laden air is not removed from the dryer and air of relatively low humidity brought in, a static condition would soon obtain.

An ideal condition, of course, would be to introduce heated air of zero humidity, pass this air over the package, and immediately remove it, even when the moisture content was low.

Naturally, the expense of doing this in practice would be prohibitive. So the best drying conditions would be obtained with a movement of air of such proportions that the layer next to the package would be changed frequently and sufficient air removed from the dryer to maintain the relative humidity well below the dew point.

Nep Standards For Combed Tops

Technical Editor:

Is there an approximate maximum standard or tolerance of neps, etc. one might reasonably expect to find in a unit length or weight of:

1. Noble-combed 64's tops
2. Double Noble-combed 64's tops
3. Recombed (after dyeing) Noble-combed 64's top? (9345)

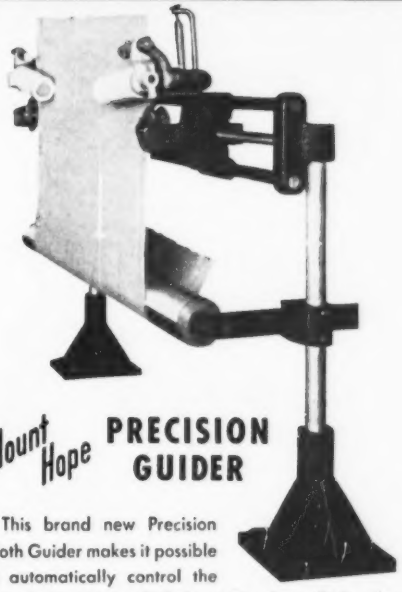
There are no set standards for impurities in combed wool, but reasonable working standards are about:

1. Noble-combed 64s tops
   Large neps—None
   Small neps—Maximum 45 per 5 yd.
2. Double-combed 64s tops
   Large neps—None
   Small neps—Maximum 10 per 5 yd.
3. Noble-combed 64s recombed after dyeing
   Large neps—None
   Small neps—Maximum 10 per 5 yd.

You will note that the standards are the same for double-combed tops and tops recombed after dyeing. Some mills allow an increase in neps during the dyeing operation, but many others do not. There seems to be no logical reason for allowing an increase. If dyeing is done with care, neps should not be increased.

For more information, write direct or use Reader Service post card.

A NEW HIGH IN CLOTH GUIDING!



Mount Hope PRECISION GUIDER

This brand new Precision Cloth Guider makes it possible to automatically control the lateral movement of cloth, within closer limits, than ever before possible.

This precision control is made possible by an entirely new principle in cloth guiding, — a fluted selvage wheel which is contacted and turned by the selvage. The wheel actuates a rack which, in turn, actuates the tilting of nip rolls to guide the cloth toward or away from themselves as required. The result is practically instantaneous reaction and safest handling of goods, even the most delicate.

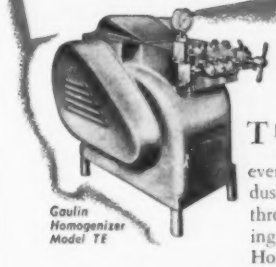
The Guider is purely mechanical; no coils to burn out or air valves to clog. It has wide adaptability, is rust proof, water proof, and has reversible Neoprene rolls.

Send for Bulletin No. SG-PG

MOUNT HOPE MACHINERY CO.
42 Adams St., Taunton, Mass., U. S. A.

Representatives—Parkman Collins Company, Boston—for Maine • Ingalls Engineering Company, Providence—for N. H., Mass., R. I., and Conn. • John H. Andresen, Inc., Paterson—for Southeastern N. Y., N. J., and Pa. • A. B. Julin, Watertown, New York—for Northern and Western N. Y. • Slaughter Machinery Company, Charlotte—for the South • S. S. Wilson, 1737 Howard St., Chicago—for Mid-West • Sidney Springer, Los Angeles—for California • W. J. Westaway, Ltd., Hamilton and Montreal—for Canada.

You Get New, Revolutionary Control Of Yarn Sizing With The GAULIN HOMOGENIZER



Gaulin Homogenizer Model TE

THE biggest improvement in yarn sizing ever to hit the textile industry is now available through the *controlled* sizing method of the Gaulin Homogenizer.

It is easy to control the viscosity of your size on the Gaulin by simply turning the handwheel. Your regular size maker will quickly learn this simple, new method of operation. From then on you can be dead sure of the viscosity of your size, because the Gaulin Homogenizer will assure you accurate viscosity control day in and day out . . . plus cutting your costs and speeding up the whole cycle of size preparation.

Textile mills are installing the Gaulin in rapidly increasing numbers because it offers so many improvements over conventional methods of preparing size. The Gaulin Homogenizer eliminates any cooking of starch size, reduces shedding on slashers and looms, and offers many other important operating advantages and savings.

ACTUAL EXPERIENCE IN SUCH IMPORTANT MILLS AS CLUETT, PEABODY & CO., HOOSAC MILLS, AND OTHERS PROVES THAT THE GAULIN HOMOGENIZER OFFERS THESE 8 IMPORTANT BENEFITS:

1. Elimination of cooking time
2. Increased loom efficiency
3. Substantial reduction of shedding in the slashers and looms
4. Lower temperatures in the size box and slasher cylinders
5. Sizable increase in slasher speeds
6. Increased moisture content of the yarn
7. Controlled sizing of yarn
8. Accurate control of viscosity

It will pay you to investigate. Write for Bulletin V-149 describing the Homogenizing process in the Textile Industry

(Patent Applied For)

MANTON GAULIN MFG. CO., INC.
44 Garden Street, Everett 49, Mass.
Southern Office
107 Atwood St., Greenville, S. C.
HOMOGENIZERS • HIGH PRESSURE PUMPS

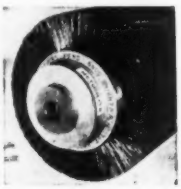
SAYS A TEXTILE PRINTER

"I LIKE ... METLKOR* FURNISHER BRUSHES ... They last months longer"

A leading printer (name on request) says, *"Prior to using Jenkins' 'Metlkor' nylon bristle brushes, we used wooden furnisher brushes. Then we got a sample Jenkins' brush. It far outlasted our old brushes. We used to buy a dozen wooden brushes every few weeks. We haven't had to replace a Jenkins' 'Metlkor' brush in months."*

You, too, will find you get longer brush life, and save money in many other ways when you use Jenkins' "Metlkor" brushes.

"Metlkor" Furnisher Brushes, Blanket Washing Brushes, Shearing and Brushing Machine Brushes, Pressing and Carding Machine Brushes and all others for textile use.



Write today for fully illustrated catalog of Jenkins' "Metlkor" nylon, fibre or china Bristle Brushes.

*Reg. U. S. Pat. Off.

M. W. JENKINS' SONS, INC.

Manufacturers of Industrial Brushes Since 1877

CEDAR GROVE, ESSEX COUNTY, NEW JERSEY

Automatic Control

(*Continued from page 135*)

for skein dyeing, and instruments were installed to control the dyeing process to close standards.

Sixteen recording thermometers, incorporating pneumatic control units, are used for the 16 new dye vats. The instruments are mounted on master wall panels for ease of operation and for accurate setting for specific types of dyes and fabrics.

This control by individual vats has many advantages; one of the most important is that the mill can process several colors or shades at one time. An advantage of using controls with recording facilities is that processing records are available for comparison between dye batches. The records are filed for reference in matching future shades.

Time signals to indicate when goods should be removed from the dyebath have been installed. The Rhodes Mark-Time timer is set so that a red light indicates that the dyeing operation has been completed. On one machine, the timing device has been connected to operate a solenoid on an air system that automatically raises the goods from the dyebath when dyeing operations have been completed.

BOILER ROOM. Instrument control has been installed in the boiler room to the extent that boiler operation does not require the services of an attendant. There are Hays gas-and-combustion control instruments, two Brown Protectoglo units, and Minneapolis-Honeywell devices to protect against high oil pressure and low gas pressure. Other instruments regulate steam supply to the hot-water tank that supplies the dyehouse. If any trouble that affects efficient boiler operations or safety develops, the controls will automatically shut off the supply of fuel.

As an added precaution, a signal system has been installed to ring a bell in the maintenance department if water in the boiler drops below a specified level.

A variety of instruments is used to make calendering operations automatic and to control temperatures within narrow limits. They have served to increase operating efficiency, quality, and uniformity.

Maintenance of the different control instruments in the mill has not presented much of a problem. Although the instruments require little maintenance, the mill does carry a small inventory of spare minor parts. Each instrument is inspected periodi-

BUENSOD-STACEY, INC.

Announces a New Portable Electric Humidity and Temperature Indicator for quick testing of Humidity and Temperature

The Buensod-Stacey Portable Electric Humidity and Temperature Indicator was developed to meet the demand for quickly taking direct readings at any point in the mill of percentage of relative humidity and temperature in degrees Fahrenheit. Price $250 U.S.A. plus transportation and sales taxes.

Available immediately.

THE BUENSOD-STACEY ADJUSTABLE INTERMITTENT HUMIDITY CONTROLLER insures extremely close control of relative humidity without the objectionable atomizer-head "wet-down" that is sometimes encountered. This "wet-down" is eliminated by the adjustable and intermittent features of the CONTROLLER which regulates the cycle of atomizer-head operation without interfering with their use in obtaining the desired relative humidity conditions. The adjustment extends through a wide range and is therefore suitable for a variety of applications.

PATENT PENDING

CONTROLLED HUMIDITY WEAVE ROOM

A view showing the Buensod-Stacey Adjustable Intermittent Humidity Controller in the #6 Weave Room of the Hathaway Manufacturing Co., New Bedford, Mass. which room has 8 Controllers in operation.

P. L. Davidson & Associates, Textile Consulting Engineers, Buensod-Stacey, Inc., Installing Engineers.

BUENSOD-STACEY, INC.

ENGINEERING CONTRACTORS

Specialists in Textile Humidifying and Air Conditioning

Main Office: 60 EAST 42nd ST., NEW YORK 17, N.Y.

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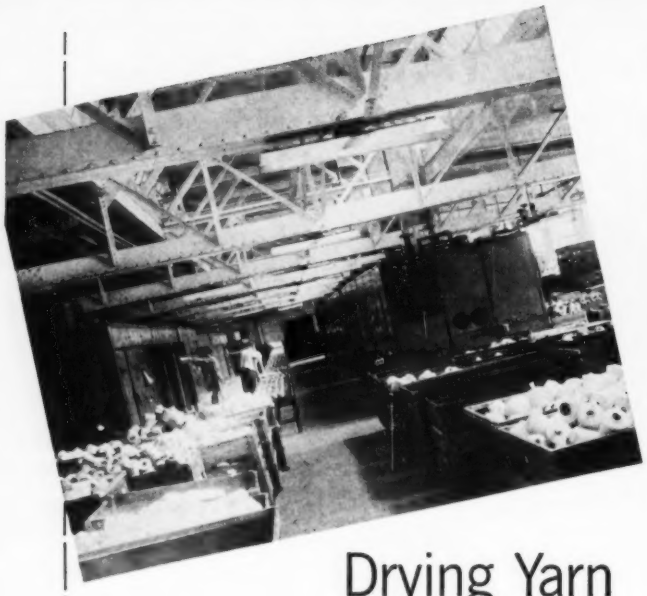
Francis Hankin & Co., Limited,
Montreal 2



Drying Yarn with Filtered Air

saves material, time and dollars

DUST and soot had always been a problem at this large bleaching and dyeing plant. The air circulating through the dryers was laden with these particles which settled on the finished yarn, causing soilage and resulting rejects.

Until recently, the only solution had been to cover the trays of yarn with cloth. This involved extra labor, the expenditure of several thousands of dollars yearly for the covering material —and still complete protection was not obtained.

Then AAF Electro-Matic* precipitators were installed at the air intake. Now super-clean air is circulating in these dryers—dust and soot are no longer a threat—costly half-way protective measures are eliminated.

This is just one of many operations in the textile industry where AAF filters have helped to improve quality of product at a saving. There's a filter of a type and capacity to fit every need—and a nearby AAF representative who can show you where and how clean air can be one of your most profitable investments. Call him today or write direct to

AMERICAN AIR FILTER COMPANY, INC.

304 Central Avenue, Louisville 8, Ky.

In Canada: Darling Bros., Ltd., Montreal, P. Q.

AAF

*Automatic Electronic Precipitator

AIR FILTERS

AND ELECTRONIC PRECIPITATORS

cally by L. L. Mitchum, master mechanic and head of the maintenance department. Machine operators check temperatures at the various processes with a thermometer at least once a day to make certain that the controls are registering correctly.

MANUAL OPERATION. All instruments are returned to the factory for major overhauls. Only one complete spare temperature-control instrument for the dye vats is carried in stock. Most of the other operations are engineered so that in case instruments have to be disconnected the machines can be operated manually.

Comparative figures to show the percentage increase in efficiency and quality obtained through the use of instrument controls are not available because the present equipment was installed with the instruments incorporated. The early tests and experience in instrumentation on the old equipment indicated so many advantages that when new equipment is installed it is designed for instrument operation.

In summing up the advantages the mill has achieved, J. B. Bradley, assistant superintendent, points out that engineered instrumentation has contributed to: (1) increased uniformity of product, (2) increased production efficiency, (3) higher quality, (4) better control of quality, (5) better utilization of the services of skilled personnel, and (6) reduction in actual operating costs.

Combination Throwing

(*Continued from page 141*)

knock-off, and then wrapped around the feed rolls, through the gathering eye, and wrapped around the take-up spool. The ends are then placed in the traveller, and the spindles started.

A spindle speed of 6,200 rpm. has been found to be the most satisfactory. The matter of turns inserted varies. A twist of 5 turns Z has proven satisfactory, as it produces a good, even plating of the two ends.

Some throwsters feel that the acetate should have three times as much tension as the nylon; for example, acetate 25 to 30 grams, nylon 8. But some yarns have been made with 14 to 16 grams tension on the nylon and 20 to 22 grams tension on the acetate, and others with 5 to 8 grams on the nylon and 10 to 12 on the acetate.

In up-twisting, final turns are added to the combination. A completed twist of 32 turns Z is average. Spindle speeds run from 9,500 to 10,000 rpm. Regular steaming shafts or headless

M&W High-Speed TENTER FRAME

Speeds up to 250 y.p.m.

Speeds up to 250 yards per minute are entirely practical with the M & W Tenter Frame, *when equipped with the M & W patented No. 11 Tenter Chain.* And you can *still* maintain the highest standards of fabric quality.

Features which make these high speeds practical are as follows:—

1. Patented No. 11 Tenter Chain. Each clip on this chain is connected to the next by a standard roller chain link. The drive sprockets and idlers do not touch the body of the clips,—only the roller links. This insures quiet operation and long life with minimum friction.
2. Large drive sprockets, which reduce wear.
3. Anti-friction bearings, which reduce power consumption.
4. Wide, parallel rails which reduce wear on chains.

PATENTED
No. 11 M & W
Tenter Chain Clip

NOTE: We repair, and supply parts for, all types of tenter chains.

Features which protect the quality of the cloth and many other advantages of this frame, not mentioned here, will be explained on request. Send for Bulletin A.

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MARSHALL and WILLIAMS SOUTHERN CORPORATION
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EXPORT AGENT—Francis H. Leve & Son, 57 William St., New York 5, N. Y.

M & W

You'll find Clinton Quality Starches Tops for Every textile purpose!

● Clinton Textile Starches are scientifically manufactured and guaranteed for unvarying uniformity and pH control. Clinton Starches give your warp the necessary body, strength and pliability that means quality weaving every time. Reduce loom stoppage and increase production with Clinton Textile Starches. For years Clinton has been a leader in the production of starches for all textile purposes.

CLINTON

You'll find our staff of highly trained technicians helpful and profitable in solving your sizing problems. Without obligation, write or call Clinton Industries, Service Laboratory, Clinton, Iowa.

Clinton Industries, Inc.
CLINTON, IOWA

BENDIX FRIEZ

FOR BETTER PRODUCTION...

KEEP POSTED on RELATIVE HUMIDITY and TEMPERATURE

...two important factors in your plant operation about which too little is usually known.

The productive capacity and efficiency of workmen . . . the condition of raw materials . . . the operation of machines—all these are affected by temperature and humidity. Modern weather instrumentation keeps you posted on these two important factors . . . gives you day-to-day records to match against production . . . shows you what to do and *when* to do it. And modern instrumentation means Bendix-Friez—manufacturer of the world's finest meteorological instruments and suppliers to the United States Weather Bureau. Write for details of the way weather instruments can help you.

BENDIX-FRIEZ
Portable Humidity and Temperature Recorder, Model 160
3" x 5" charts, 8 or 30 hour records. Modern design . . . handy for small space and difficult locations . . . built to meet unusual conditions.

BENDIX-FRIEZ
Hygrothermograph, Model 594
The foremost relative humidity recorder for laboratory, factory, and office use. Scientifically designed for accuracy and dependability.

FRIEZ INSTRUMENT DIVISION of
1370 Taylor Avenue
Baltimore 4, Maryland

Bendix AVIATION CORPORATION

Export Sales: Bendix International Division, 72 Fifth Avenue, New York 11, N. Y.

packages are used. The yarn is run package to package. A number 7 flyer wire is used, which gives a tension of 12 to 15 grams.

An automatic conditioning box is best for steaming. The yarn can be placed on metal trays which are stacked on a skid platform for easy moving. Controls should be set at 200° F. dry bulb and 195° F. wet bulb. Conditioning time is 1½ to 2 hr., after which yarn should be allowed to set at room temperature for 2 to 3 hr. before being used.

Pointers For Supervisors

(*Continued from page 165*)

portance to say, Mr. Walter speaks briefly to the gathering after dinner. For instance, at one meeting he spoke of the return of competition after the war and what the Uxbridge Worsted Co. was doing to maintain its position. At another meeting, he spoke briefly on the difficulties of doing business under governmental control.

The dinner parties were never intended as a media for propagandizing and have not been used as such at any time. Business has been mentioned only in response to questioning or for some similar reason.

MOVIES. The main attraction follows dinner. Using a 16-mm. projector and a large screen, motion pictures, taken the previous month in the plant and showing the various guests at their work are shown. The laughter, giggles, and general hilarity aroused by these movies would make many an established comedian pale with envy. The footage on each individual averages about 15 to 20 ft. Sometimes, when two from the same department are involved, they are shown on the screen together. The movies are taken by the company photographer who also services four company publications. Completely unfamiliar with movie photography at the start, he now shoots film which has a professional quality about it in every respect except the actors and actresses.

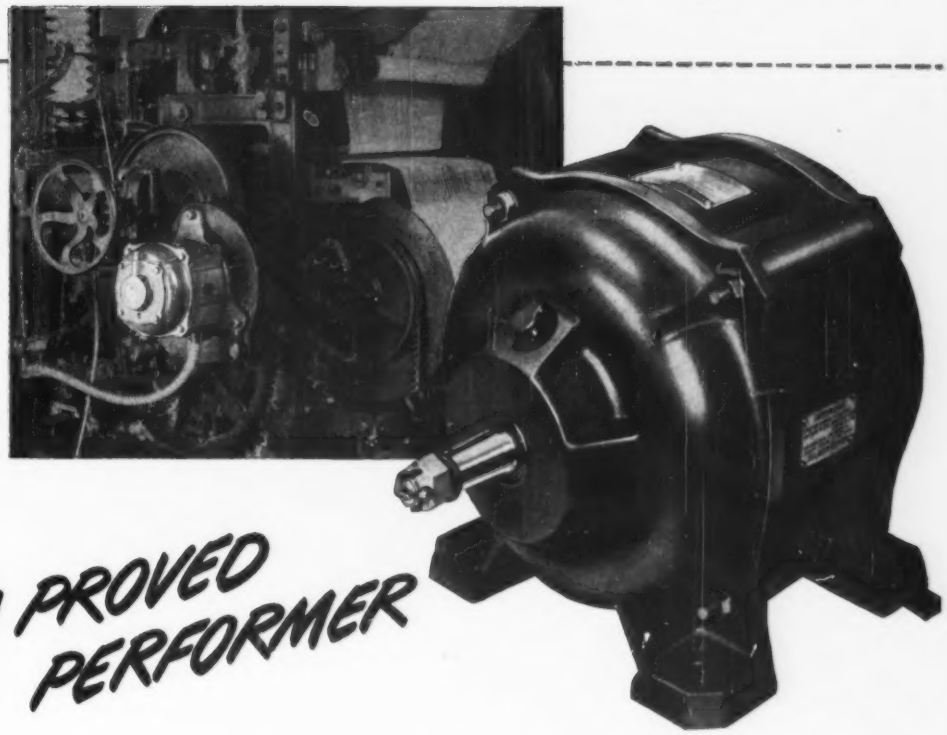
Strictly corny? Sure, but like most humans, the workers get a big and lasting kick out of seeing their strange antics on the screen.

A travelogue, usually in color with sound, which runs about 20 min., completes the program unless there are requests for the re-showing of the mill movies. (There always are requests.)

It is quite impossible to measure the amount of good which has been done by the dinner parties other than to report that visitors to the plant

YOU CAN BE **SURE**.. IF IT'S

Westinghouse



A PROVED PERFORMER

...engineered by experience

A forty-year partnership with the textile industry produces a lot of "know-how" in motor design. That's why the Westinghouse Loom Motor has a record of proved performance . . . why it meets every exacting requirement of modern loom operation.

Developed in co-operation with loom manufacturers, the Westinghouse Loom Motor gives you maximum output from the loom with minimum energy from the line. Its co-ordinated flywheel effect, ability to withstand wide load fluctuations and cool operation all combine to maintain a new high in weave room efficiency.

When buying new looms, specify Westinghouse Loom Motors and be sure. Or, if you are using motors not specifically designed for loom service, it will pay you to replace them with Westinghouse Loom Motors. They fit any loom, new or old.

Get the facts today. Call your nearest Westinghouse office and ask for Booklet B-3778; or write to Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pennsylvania. J-30001

Westinghouse
LOOM MOTORS

Outstanding Features of ALL MILLER Air Cylinders . . .

- Low "Break Away" Pressures
- No Air Leakage
- Self-Adjusting Packings (No Manual Adustment Required).
- Non-Corrosive Brass Cylinders
- Hard Chrome Plated Piston Rods
- Dirt Wiper Seals
- Solid Steel Heads and Caps

Complete Line

- AIR CYLINDERS 1½" to 20" Bores
- LOW PRESSURE HYDRAULIC CYLINDERS 1½" to 14" Bore.
- HIGH PRESSURE HYDRAULIC CYLINDERS 1½" to 12" Bores

Single and Double Acting, Single and Double Rod End, Spring Return, Cushioned and Non-Cushioned, Over-Sized Rod, and Long Stroke Cylinders in All Mounting Styles.

write for Miller Air Cylinder Bulletin A-105 and Miller Hydraulic Cylinder Bulletin H-104

MILLER MOTOR COMPANY

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AIR AND HYDRAULIC CYLINDERS - ACCUMULATORS - COUNTERBALANCE CYLINDERS - BOOSTERS - AIR HOISTS

have commented that they have never been in such a friendly mill. It is reflected too in the fact that executives find themselves made welcome as they walk through. They are greeted on every side by friendly smiles and easy, uninhibited conversation.

The good has not been all one sided, either. Executives who thought they might possibly be good enough to put on their pants a little differently have come to the realization that they too must use the one-leg-at-a-time system.

Winder-Yarn Conveyor

(*Continued from page 127*)

One precaution taken has been to roll back the square lower corners of the plates so that no sharp corners are present. Another step will be to paint the lower 10 or 12 in. of the plates with black and white stripes to attract attention.

Any number of different yarn numbers can be handled by the conveyor. Carriers are assigned to certain yarn numbers according to the number of spinning frames on those numbers.

For example, say that ten carriers will be needed to take care of the spinning production of 14s yarn. Ten carriers at staggered positions on the track will be assigned, and "14" will be written with chalk on each side of the carriers.

At the loading station in the spinning room, a chart is hung on the wall directly in front of the man who loads the carriers. This chart lists the different yarn numbers being run and the identifying mark assigned to each one.

MIXED YARN. Mixed yarn has been all but eliminated. Only two men—the loader and dumper—handle the yarn. In case yarn is mixed, the responsibility is easily traceable to one of them.

Another advantage has been a decrease in oily yarn. Unless the carriers are filled too full, no yarn is dropped on the floor.

An important result noticed has been the elimination of a winder operator thinking that the yarn dumper deliberately gave her a box of less desirable yarn. The yarn man himself does not see the yarn until he is in the act of dumping it. All he sees is the yarn number on the side of the guard. Winder operators accept it now without complaint.

Since the system is new (at the time of this writing it has been operating about a month), no maintenance has been required. The track is

Improved
EMERY TWITCHELL OILS
for Cotton Finishing
...Regular and Sanforized Fabrics

To provide oils to meet varying finishing requirements, Emery manufactures three Twitchell Products. All of them are extremely stable, offering maximum resistance to oxidation, yellowing and rancidity. Won't corrode machines or metal parts; cause no gumminess or tackiness. *Most important,* treated fabrics retain rewetting properties indefinitely.

For FAST Rewet

Twitchell Oil 7250. All fatty-base oil imparting highest speed of wet-back. Gives soft hand . . . minimizes shade changes . . . enhances bloominess and color values. Minimum volatility, no tendency to "fog."

For MEDIUM SOFT Hand

Twitchell Oil 7240. A fatty-mineral base oil for medium soft hand is an efficient rewetting agent. Compounded to keep "fog" to a minimum.

For MINIMUM effect on Hand

Twitchell Oil 7231. All mineral base. Best where good wetting back, minimum effect on hand and greatest economy is sought. Compounded to keep "fog" to a minimum.

For REGULAR Finishing

Each of these three oils is recommended for regular finishing, for slashing, for increasing absorbency of towelling, wiping rags, paper maker's felts, etc. Twitchell 7210, 7211 and 7230 provide still lower cost oils for all types of cotton finishing where lower-quality, less-efficient assistants are adequate.

Our Sales Service Department is ready to schedule plant trials at your convenience.

OTHER EMERY PRODUCTS FOR TEXTILE PROCESSING

EMERSOL ELAINES

Current production of all Emery Oleic acids shows higher resistance to oxidation, better color stability, less tendency toward rancidity, greater odor stability, lowest unsaponifiable content of any commercial red oil.

EMERSOL STEARIC ACIDS

Manufactured to uniform quality standards . . . exceptional stability of odor and color (heat test) . . . unique qualities retained in most finished products.

ACIDS AND GLYCERIDES

Emery also manufactures: Animal, Cottonseed, Coconut, Soya Fatty Acids . . . Hydrogenated Acids and Glycerides.

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401 N. Broad St., Philadelphia 8, Pa.

Floor of Northern Hard Maple, Looping Department, Melrose Hosiery Mill, High Point, N. C.

NORTHERN HARD MAPLE, MFMA-marked, is so sound a specification for mill floors—particularly textile mills—that architects and engineers have, for years, made it virtually a standard.

Tough, tight-grained, clean, **MFMA** Northern Hard Maple Flooring provides welcome *resilience* underfoot. Workers like it, because they can stand, walk and work on it for hours with minimum fatigue. It does not sliver. It resists the dents and scrapes and pound of truck wheels. It needs only sweeping, as a rule, to keep it thoroughly clean and bright. And "there's always a new floor underneath" with Northern Hard Maple.

And it's Economical! For utmost value, specify **MFMA** Second grade, Second-and-Better grade or Third grade. The varying shadings allowable in these thrifty grades, by **MFMA** strict grading regulations, add beauty and interest, with no sacrifice of performance characteristics. The money saving is appreciable. Consider these economical grades of **MFMA** Northern Hard Maple for your new floors, as well as repairs and over-all modernization projects.

See Sweet's

Section 13/g 6, for catalog data. Ask for new literature on floor maintenance and officially recommended floor finishing products and processes.

MAPLE FLOORING MANUFACTURERS ASSOCIATION
Room 392—46 Washington Boulevard
Oshkosh, Wisconsin

FLOOR WITH NORTHERN HARD MAPLE
BEECH AND BIRCH

equipped with a reservoir oiler that is refilled once a week. Oil from the reservoir drips onto a brush, which brushes the oil on the chain rollers.

Radio-Isotopes

(*Continued from page 131*)

its presence is definitely made known. Radon, a radioactive gas, escapes from the surfaces of these rocks. Everyone is constantly being bombarded by cosmic radiation. This radiation will collide with some of the nitrogen in the atmosphere producing radioactive carbon 14, which is a long-lived radioisotope. The actual quantity inhaled by the individual is exceedingly small. Nevertheless it contributes to the natural exposure of the individual.

Many persons have been X-rayed for one reason or another. The total "dose" received during the exposure of one film to obtain a picture of the chest is often far more than the careful scientist will receive in a month working with greater than tracer-level activity. In some shoe stores, X-ray machines are used to determine the manner in which the foot spreads in a shoe. Finally, luminous dial wrist watches continuously emanate radioactive particles, yet no apparent damage has been noted on the wrist of the user.

Tracer-level activity can be properly used in industrial processes without being injurious to the health of workers or the ultimate consumers. At present there are strict government regulations to prevent radiation from injuring any person. As more and more is learned about radiation, unenecessary precautions are being eliminated.

Intaglio Printing

(*Continued from page 147*)

A central-impression cylinder is usually of cast iron. While on single-color jobs it is often covered with rubber to act as the pad against which to print, more often the cylinder is lapped with a mechanical fabric (printing-machine cylinder lapping) as it is for textile printing; and an endless rubber blanket is used. The blanket travels around the cylinder with the film, acting as a conveyor, and is practically a necessity in vinyl-film printing.

The inks, or more properly the color solutions, which are made up the consistency of cream so that they can adhere to the engraving of the rolls, do not determine the type of printing machine to be used. It is, rather, the ability to maintain register which is important.

The difference between photoen-

Coprantine Colors

These colors . . .

are a new class of substantive dyestuffs. They give by the usual direct color procedure, dyeings which when aftertreated, combine with copper salts to form exceedingly stable complex compounds of excellent fastness to both light and washing . . . a particularly effective aftertreatment is the new Coprantine Fixer WF.

ESPECIALLY RECOMMENDED FOR PACKAGE MACHINE DYEING

CIBA

TEXTILE BANKING COMPANY

Inc.

Factoring Service

Puts your sales on a cash basis
Strengthens your cash position
Relieves you of credit losses

55 MADISON AVENUE • NEW YORK

graving and pantograph-engraving is the method of applying the resist to the roll. Approximately the same etching solutions are used in both cases, since the same copper rolls are used in both cases.

Paper back grays, either full width or set merely at the edges of the cylinder (the latter system is seldom used), keep the color off the blanket and thus prevent the destruction of the latter. But paper back grays are not entirely necessary so long as the blanket is cleaned at the end of a run. Work is being done to develop a cleaner for blankets used in film printing.

Film does not become tacky merely because of the printing operation, except in the printed portions where it is the color solvents that cause tackiness. In the latter case, tackiness is removed as these solvents are evaporated by drying. And drying, when done, is usually accomplished by hot-air ducts or tunnels arranged above the backrigging of the machine. Dry cans are not generally used, if at all.

Interviewing

(*Continued from page 143*)

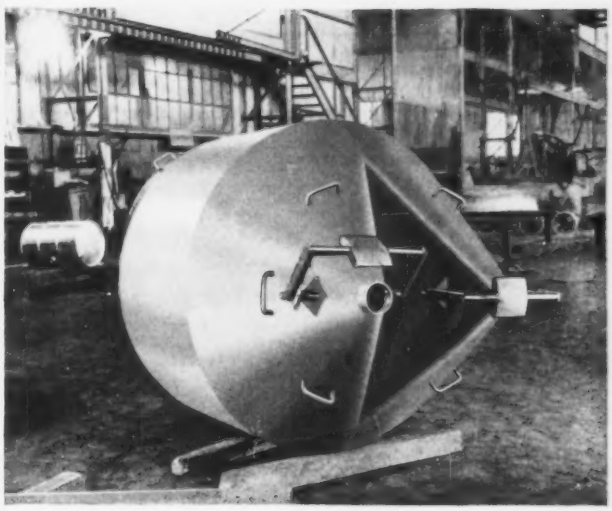
phasizes their necessity while at the same time appeals to the worker's sense of importance, sense of responsibility, and integrity. Explaining the cost of an absence in terms of overtime, inconvenience to other employees, and production delay is more emphatic than saying "I'll fire the hell out of you if you start laying out!" With the former method there is established reason and purpose and importance behind rules. The latter method indicates you think the new man is like a former employee you've been plagued with; so you're starting off with a warning.

While bluntness, aloofness, and sternness are "out" in the intelligent interview, over-enthusiastic handshaking, back slapping, and goodwill pep talks should not be allowed to enter. They smack of insincerity, often arouse the applicant's suspicions, and are sure to backfire when realities are encountered. An applicant expects and responds favorably to dignified, friendly treatment. He does not expect to be greeted like a long-lost brother, and he will feel resentment and put up his guard if treated in this manner.

SUGGESTIONS. It is up to the supervisor, then, to start, conduct, and end the interview on a sincere, friendly, business-like plane. Some practical suggestions by which this can be accomplished are outlined here.

With your opening remark, smile

MATERIAL SAVINGS WITH
STAINLESS STEEL



THE hopper illustrated above shows one of the many ways in which Stainless Steel can be adapted to your own plant. Fabricated on special order this hopper will result in appreciable savings in production. Stainless Steel is non-corrosive and materials remain unaffected by metallic contamination. Sound economy indicates its employment.

Truitt's engineering service in the fabrication of carbon and stainless steel is now available to the textile, chemical, pulp and other industries. Whether your need be tanks, vats or other equipment, remember . . . Truitt, one of the South's larger fabricators, will gladly figure your job, without obligation or cost to you. Send for free Booklet on our facilities.

DESIGNERS, ENGINEERS AND FABRICATORS
OF STEEL AND METAL PRODUCTS

TRUITT
MANUFACTURING COMPANY
• GREENSBORO, NORTH CAROLINA •

For more information, write direct or use Reader Service post card.

DECEMBER • 1949

CARD CLOTHING NEWS and views

WRITTEN MONTHLY BY E. A. SNAPE, JR., PRESIDENT **Benjamin Booth Company** PHILA. PA.

For you who ask:

is STRIP-O-MATIC*

Suitable For Fine Wools As Well As Coarse?

From what we at Benjamin Booth Company gather, from reports received to date on installations, it appears to us that STRIP-O-MATIC does a very satisfactory job on fine wools as well as fine denier rayon and nylon!

We hasten to answer this question because it has been raised by a number of carders.

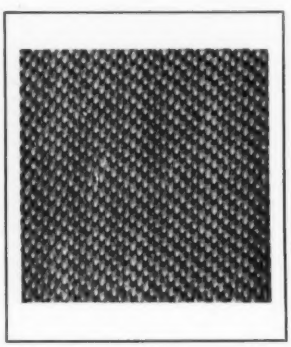
If you are not familiar with the new STRIP-O-MATIC Card Clothing, it is, briefly, a revolutionary card clothing designed to run with a minimum of stripping, provide actual time, money and labor savings, and at the same time afford better carding and longer life.

So successful is STRIP-O-MATIC—with its torpedo shaped Wire, Clear Run Foundation, and Plastic Face—that over 100 individual mills have placed orders for it, with repeat orders received from almost 30 mills! So quickly, then, it has proved itself!

Another question has been raised by carders: "Is STRIP-O-MATIC used successfully on *all* the rolls of the cards (Fancy Lickerin and feed rolls excepted)?" To which we answer, "Definitely, STRIP-O-MATIC *is* used successfully on doffers, workers, strippers and tumblers as well as cylinders". Trial installations have consisted of as little as one worker and as much as a complete card!

You will be amazed at the saving offered by STRIP-O-MATIC . . . savings in "Down Time" . . . savings in "Stripping Waste" . . . no costly methods to put on . . . no change in Fancies . . . longer life . . . *better carding!* Think of the convenience, too, in using a flexible card clothing that runs virtually without stripping!

There are so many ways STRIP-O-MATIC can save you that we prepared an 8-page color booklet, yours for the asking. In it we describe the construction of STRIP-O-MATIC, how and why it is better, and photographs of it in actual use, as compared with conventional clothing. If you have not yet received your copy, won't you write us today?



Yours for better carding,

E. A. Snape Jr.

President,

Benjamin Booth Company

Allegheny & Janney Sts.

Philadelphia, Pa.

* Pat. Applied For.

and establish your courtesy and friendliness. Relax, make the applicant comfortable, and try to avoid making him wait. Show your appreciation of his interest, your willingness to fully consider his statement of qualifications. Ask questions that will help him clearly describe his experience, attitude, expectations. Encourage any questions that may arise in his mind from what you tell or show him. Answer his questions without evasion.

Show respect for the applicant's feelings and beliefs, even though they may differ radically from your own. Show respect for him as an individual.

Do not indicate shock, surprise, or resentment at any statement, question, or criticism the applicant may express. Don't prejudice his answers by questions that suggest certain responses. Don't belittle his experience or his estimate of his own capabilities even if they seem greatly exaggerated. "Telling him off" or "trimming him down to size" is always a questionable and costly procedure.

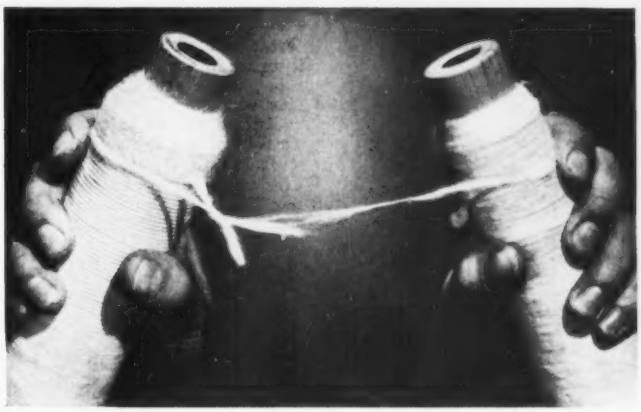
Do not lose control of the interview. Never allow it to drag or race beyond the logical termination point. Don't make promises unless you are sure you can keep them. Don't forget promises you make. Do not fail to make explanation of delays, or of events that make it impossible for you to keep promises you have made.

Interviewing requires expert self-management and self-control. Remember that you cannot conduct an intelligent interview if you are angry, tense, prejudiced, or if you have your mind on another problem. Dismiss the problem for the duration of the interview, or postpone the interview until the problem is solved. Never allow your own prejudices, or political or religious beliefs, to project into the conversation. Maintain your poise and interest, stay relaxed, and never talk down to the applicant. In closing the interview, it is well to summarize the points covered. Such a summary allows an opportunity for repeating and emphasizing important phases of the discussion and understanding.

Be sure to close the interview on a pleasant note. This is of great importance if the applicant is engaged, promised consideration on a future opening, or especially if he is rejected.

AFTER-EFFECTS. Engaged after a thorough, well-rounded interview, a new employee begins work with an attitude and interest conducive to proper adjustment to working environment. If he has been understood, appreciated, and accepted by the supervisor in a satisfying interview, he is likely to return to this source for instructions and guidance before serious

LUDOX® STRENGTHENS Processed Fibers and Films



Make this test

Take two rayon rovings made from the same staple—treat one with Du Pont "Ludox" colloidal silica. Tie ends together and pull rovings apart as shown in picture. See how untreated roving breaks first. In picture, "Ludox" treated roving has 33% less twist: 1.07 twist per inch compared with 1.59 per inch for untreated roving.

3 WAYS YOU CAN PROFIT FROM "LUDOX"

✓ **You can increase fiber friction** get increased strength—by applying less than .3% "Ludox" solids (based on dry fiber). This extra strength speeds production because you can reduce the number of twists without increasing processing breaks.

✓ **You can obtain new and different properties** from sizes, binders and coatings. In aqueous dispersions, such as polyvinyl alcohol and polyvinyl acetate, "Ludox" gives added bond strength, increased friction and water resistance, and reduces dry tackiness. With latex, for example, adhesion to many fibrous and non-fibrous surfaces is greatly increased.

✓ **You can eliminate yarn slippage** by using from .5% to 1% "Ludox" solids to weave-set smooth yarn fabrics. And you can get special finishing effects by modifying "Ludox" colloidal silica with softening and bodying agents.

HOW "LUDOX" CAN SAVE YOU MONEY

Du Pont "Ludox" is a highly concentrated aqueous colloidal solution of silica particles (30% SiO_2). This high concentration minimizes shipping costs, drum handling and storage requirements, and permits use of "Ludox" without excessive dilution of sizes and coatings. "Ludox" is highly fluid, chemically reactive and substantially free of alkali. Whatever your problem—in spinning, fabric finishing, weave-setting, in nonwoven textiles—one of the many applications of "Ludox" may help you solve it.

WHERE CAN YOU USE "LUDOX"?

Get the answer to this question by writing E. I. du Pont de Nemours & Co. (Inc.), Grasselli Chemicals Department, Wilmington 98, Delaware. A technical representative will be glad to call and show you how "Ludox" can benefit your products. Or clip and send coupon for latest Technical Bulletin on "Ludox."

DU PONT
REG. U.S. PAT. OFF.
LUDOX®
Colloidal Silica
BETTER THINGS FOR BETTER LIVING
...THROUGH CHEMISTRY

E. I. du Pont de Nemours & Co. (Inc.)
Grasselli Chemicals Dept. T.W.-12, Wilmington 98, Delaware

Please send me latest technical information on "Ludox" colloidal silica.

Name_____ Title_____
Company_____
Address_____
City_____ State_____
Interested in "Ludox" in_____
(Type of product or products)

...and get cleaner floors for less!

What a difference when you stop scrubbing and use *modern* methods! Same traffic, oil and dirt conditions—but the "dry cleaned" floor is brighter . . . less slippery . . . easier to clean, and it *costs less to maintain.*

TENNANT FLOOR MAINTENANCE SYSTEM

1. Restores life to your floors. Gets rid of dark, rough, water-softened fibers . . . assures a clean, smooth, new-wood surface. Brings back original beauty of floor.

2. Hardens surface to resist wear. Special sealing process makes floor resistant to dirt penetration and traffic wear. Makes floor lustrous, easy to keep clean.

3. Dry Cleans to keep floor bright. A fast easy job with a Tennant machine; cleans floor like magic! Saves manhours, keeps floor smooth, safe, attractive.

FAST, EASY-TO-USE Tennant Floor Machine whisks grime from floors and picks it up in 1 operation. Various models for 8", 12" or 16" drum-type accessories for complete reconditioning and maintenance of mill floors. Has semi self-propelling action.

G. H. TENNANT CO.
2586 North Second Street
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Write Today!
Send for NEW 4-page illustrated bulletin on "How to Get Better Results in Textile Floor Maintenance."

The way to finer floors
TENNANT
Floor Maintenance System

FLOORS, LIKE ROADS ...ARE SAFER *when dry*

Established 1870

problems, doubts, or difficulties affect his job performance. Intelligent selection after an exhaustive interview, followed up by sound counseling procedures, can become a powerful force against unhealthy and subversive influences in a department or plant.

The manner in which applicants are rejected can have an important bearing on a company's public relations; hence the necessity of every effort to leave the rejected applicant free from antagonism.

Industry's best answer to the charge that it is cold and unfeeling, and that it regards its workers as cogs in a machine, is the general or line supervisor who knows how to talk, listen, understand, and make himself understood by his employees.

Here is an opportunity no supervisor can afford to overlook. For in the interview he can help shape his own reputation and success, and contribute vitally to the progress and protection of the American textile industry and democracy.

Outdoor Steam Main

(*Continued from page 145*)

Androscoggin division and across the division area for about 500 ft., to terminate in the Androscoggin division boiler room where it connects with the main steam line from the boiler.

The entire length of the steam main, a little less than 3,300 ft., is located about 25 to 30 ft. above street grade.

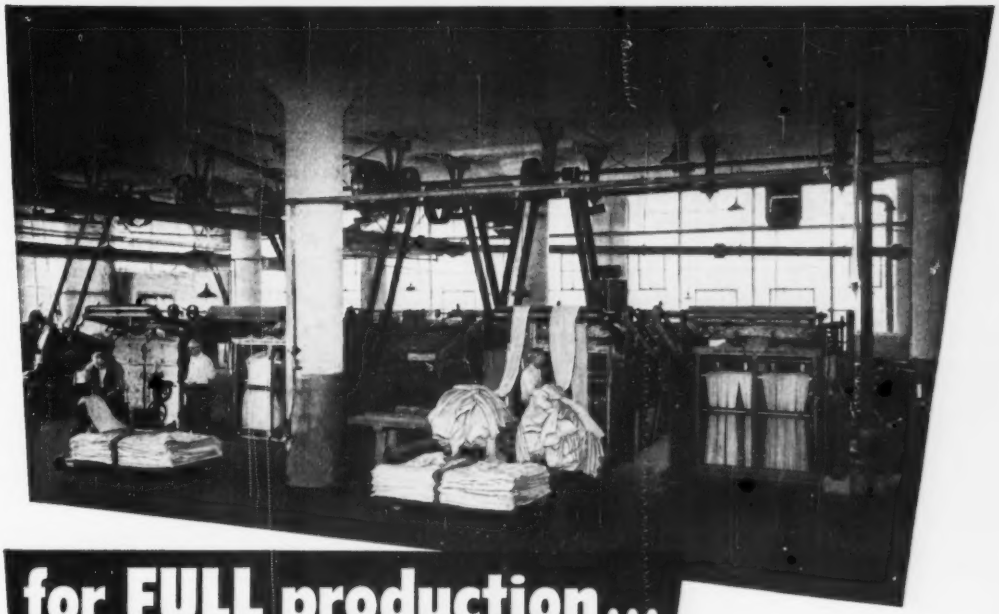
A 2-in. line from the Androscoggin division boiler room and a 3-in. line from the Hill division boiler room return the condensate to the Bates division boiler room.

INSULATION. All steam and return piping was insulated with 85% magnesia, a molded type of thermal insulating material. We had used this material before, in insulating the boiler plants, process piping, etc.

Insulation thicknesses used are listed in the accompanying tabulation. They were chosen on the basis of operating temperature, pipe size, location of piping, etc.

In applying the insulation, care was taken to obtain as close and as airtight a fit as possible. Pipe surfaces were first cleaned of dirt, grease, debris, etc. Semi-cylindrical sections of insulation were then applied, butted tightly together, and wired on. Joints in both single-layer and double-layer construction were staggered to avoid a continuous joint from the pipe surface to the outside and were sealed tightly with 85% magnesia cement.

Flanges, fittings, and valves, ex-



for FULL production...

Botany chooses Hunter Fulling Mills

The illustration on this page shows the high-production Fulling Mills installed at the Botany Worsted Mills, Passaic, New Jersey. Hunter Fulling Mills are equipped with every possible new improvement, such as sectional rubber rolls, stainless steel linings, throats, stop motion and whip roll. Hunter Mills may also be fabricated entirely from stainless steel. These units can be equipped with pneumatic pressure for both top roll tension and crimping box tongues. They may, of course, be equipped with or without motor drives.

Write today for catalog.

BUILT BY HUNTER — JAMES HUNTER MACHINE CO. Hunter NORTH ADAMS, MASS. — IT'S DEPENDABLE

D. L. Raedel, 1936 West Lake Street, Chicago, Ill.
S. Alex Dalghren, Ivyland, Bucks County, Pa.
J. Everett Burdick, Grayson Lane, Newton Lower Falls, Mass.
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Rudel Machinery Company, Ltd., Canada

Hunter

JAMES HUNTER MACHINE CO., NORTH ADAMS, MASS. FOUNDED 1847.

INFANTS SWEATERS

with the

"Perfect Racked Edge"

As Knit on the

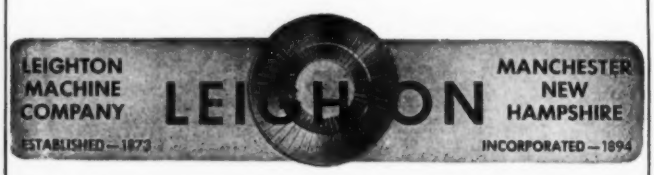
LEIGHTON TRANSFER MACHINE

Machines built for infants' and children's sizes 2-4 and 6. Perfect Racked Edges are adaptable to either 1 & 1, 2 & 1, or 2 & 2 cuffs.

A good machine for T shirts and other athletic garments, too.

Other Leighton Knitting Machines include—Three Needle Selective Rack with four feeds, two or three Finger Stripers, Separating Course (may have two finger stripers on one feed for draw thread), and individual stitch attachments.

Send a sample of your fabric and write for further information.



cept on return lines, were insulated with 85% magnesia blocks and cement in the same thickness as used on the adjacent piping. The blocks were cut to fit the various surfaces and wired firmly on. Magnesia cement was then used to fill in all cracks, joints, low spots, etc., and to give the insulation a smooth surface. On return lines, the flanges, fittings, and valves were insulated completely with 85% magnesia cement.

Although these items are sometimes left uninsulated, we felt that better and more economical operation would be obtained if all flanges, fittings, and valves were insulated. Heat losses from these surfaces as well as the troublesome effects of steam condensation are thus kept at a minimum. Also, stresses caused by varying temperatures in the line itself are thus avoided. This feature is especially desirable in the case of our long outdoor line, which has to supply high-pressure steam for the mill operations.

T.O.E. Weaving

(*Continued from page 123*)

tion disk on the crankshaft with a pressure of five tons. If it can be pressed on with a lower pressure, either build up on it to increase the necessary pressure or discard it."

Mill T: "Put a lug behind the motor to keep it from slipping. Friction-gear slippage can be reduced by putting a collar between the hub of the disk and the end of the crankshaft bearing."

Question: In going to longer quills, do filling breaks increase or decrease?

Mill A: "We estimate that we are putting 15% more yarn on the 8¾-in quill than we did on the 8-in. quill. Filling breaks increased."

Mill G: "We get 20% more yarn on an 8¾ in. quill than we did on an 8-in. quill. There was no significant increase in filling breaks."

Mill H: "Filling breaks increased 5% on long quills."

Hoisery-Dyeing Methods

(*Continued from page 115*)

For light and medium shades:
5.0% tannic acid (comm. grade)
0.5% sulphated fatty alcohol
0.5% acetic acid (56%)

Raise temperature to 125 to 130° F., add dye, and raise to 160° F.

Run ½ to ¾ hr., and sample.

Later, the mill made experiments in which the acetic acid used in the tannic-acid method was replaced with alkalies because there was a chance that too much acid might cause un-

only WEST LASTINCOTE was chosen

TO COVER 750,000 SQUARE FEET OF FLOOR SPACE IN ROBBINS CLOTH MILLS 3 BIG PLANTS!

"CONCLUSIVELY BEST BY COMPETITIVE TEST" Because heavy textile traffic is *tough* on floors—the floor finish has to be even *tougher!* . . . So in experimenting with a floor finish for its maple floor in its new plant in Aberdeen, North Carolina—the Robbins Cloth Mills insisted first of all that it be greatly *wear-resistant.* Besides which it had to possess a hard, long-lasting lustre—prove easy to apply and maintain—and to accomplish the greatest possible coverage at minimum cost.

"Test panels" of a half-dozen competitive floor materials were taken and studied—*and only WEST LASTINCOTE made the grade on ALL vital counts!*

A convincing enough test for LASTINCOTE? Ordinarily, yes—but not for the company's other two plants! Each, in turn, tested LASTINCOTE separately . . . the result?

The total floor area of all three plants, comprising 750,000 square feet, is beautifully protected by three coats of WEST LASTINCOTE.

What LASTINCOTE is!

LASTINCOTE is a hard, brilliant finish particularly created for textile floors of every type. A clear sealer, it has extra penetration power—seeps deeper into every floor-pore to *build in* added resistance and durable beauty. Alkali soaps and other floor hazards won't affect it—nor will most acid solutions. Easily applied with a lambs-wool applicator, it adds trouble-free maintenance to extremely low-cost coverage.

WEST DISINFECTING Company

42-16 West Street, Long Island City 1, N. Y.

FREE! PLEASE CLIP TO YOUR BUSINESS LETTERHEAD

WEST DISINFECTING COMPANY
42-16 West Street, Long Island City 1, N. Y.

Gentlemen:
Kindly arrange for a free, non-obligating demonstration which will prove LASTINCOTE "Best by Competitive Test." Also send descriptive literature.

*Name*_____ *Position*_____

*Street*_____

*City*_____ *State*_____ 21

even absorption of the tannic acid. The alkalies used in conjunction with tannic acid and sulphated fatty alcohol were:

a. Trisodium phosphate, pH 6.6
b. Sodium carbonate, pH 6.7
c. Ammonium hydroxide, pH 6.6
d. Sodium bicarbonate, pH 6.6

The pH values of the above solutions were obtained by using 10% (wt. of goods) tannic acid

10% (wt. of goods) sulphated fatty alcohol

1% (wt. of goods) alkali

The next experiment in conjunction with DuPont technicians was one in which tin salts and zinc salts were used in conjunction with the tannic acid to form insoluble tannate on the nylon. The procedure was as follows:

10% tannic acid
5% formic acid

Raise to 160° F., run 15 min.

Add 5% stannic chloride or 5% zinc chloride

Run 10 min.; rinse in cold water.

Dye in a bath containing:
2% trisodium phosphate
2% soap
2% sulphated fatty alcohol

It can be concluded from these experiments that the tannic acid in connection with acetic acid gave the best results in obtaining an even match between boot and welt. However, a fairly high percentage of uneven dyeings was noticed.

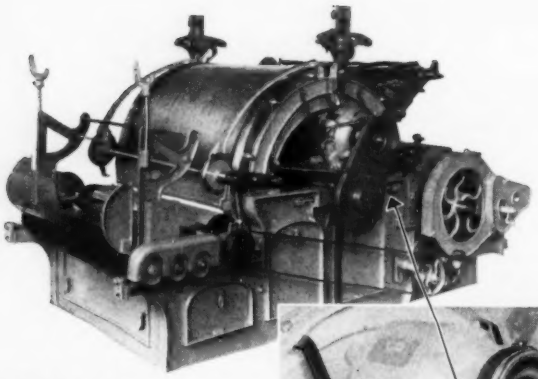
MIGRATION. In all the dyeings, the problem of migration is ever present. The blue appears to be the bad actor. The longer the time of running, the heavier the main yarn becomes, with the welt losing depth at the expense of the boot. In order to prevent migration, some people are of the opinion that the particle size of the dye must be kept large; and to do this the dyeings should be run in an acid bath or neutral bath. When the dispersed dyes are run in a high-alkaline bath, the particle size of the dyes becomes very fine; and thus poor union will be the result.

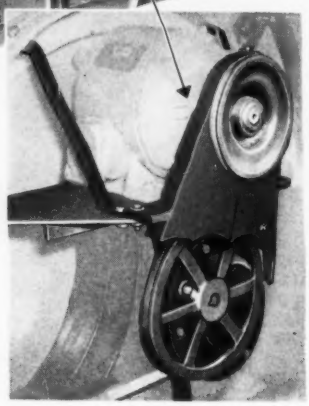
Berkshire worked with DuPont along this path. Instead of scouring, the goods were treated for 40 min. at 170° F with

10% Protolin
3% sulphated fatty alcohol
3% formic acid.

The dye bath was adjusted with sulphated fatty alcohol and acetic acid; the pH of the bath registered between 5.0 and 5.2. In addition, the dyes were dispersed with denatured alcohol. The maximum dyeing temperature was 160° F. This method gave only a fair union.

After many experiments, it be-





NOW...

put individual drives in your cotton card room

Here's a new "packaged" drive specifically designed for cotton card operation! Because the complete drive nests right in the card arch, you eliminate dangerous open flat belts and troublesome overhead line shafting. It's far more compact; cleaner and quieter in service. Speed changes are made in a few minutes. For maximum production and highest quality at lower maintenance and operating costs, get the full story on this amazing drive designed with your card room problems in mind.

The American Pulley Company
4260 Wissahickon Ave., Phila. 29, Pa.

AMERICAN CARD DRIVES

SEND ME . . .
. . . more information on the advantages you talk about. Please rush my free copy of the American Card Drive Catalog.

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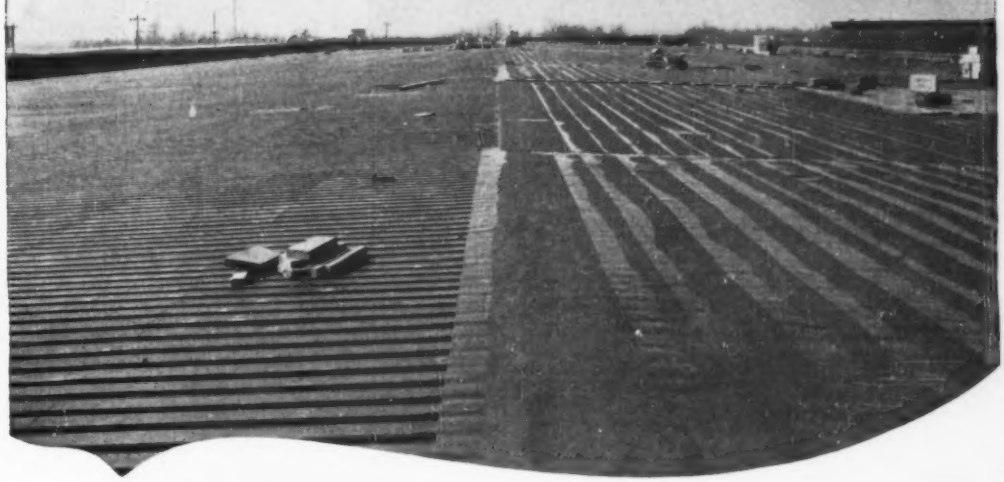
COMPANY
ADDRESS
CITY STATE
THE AMERICAN PULLEY CO., 4260 Wissahickon Ave., Phila. 29, Pa.

HERE ARE THREE IMPORTANT REASONS

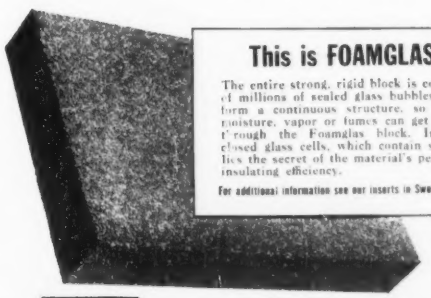
...why so many mill superintendents have installed PC Foamglas recently!



IT'S EFFECTIVE INSULATION! PC Foamglas is a true glass in cellular form. That is why it has proved an effective aid in maintaining desired temperature levels. Foamglas withstands the high humidity encountered in textile mills. It is also a moisture seal, a vapor stop.

IT'S RIGID AND STRONG! Foamglas blocks are so rigid that they readily support their own weight when built into walls. They do not pack down, check, shrink or swell. They are so strong that—when used under cover floors—they support heavier than ordinary loads without crushing. Because of these properties PC Foamglas, when used as roof insulation, forms a smooth, firm base for roofing materials.

IT'S PERMANENT! PC Foamglas is moistureproof, fireproof, vaporproof and acidproof. Those are some of the reasons why —when properly installed in textile mills—PC Foamglas retains its original insulating efficiency permanently. You insulate the first time for the last time, when you use PC Foamglas.



This is FOAMGLAS®

The entire strong, rigid block is composed of millions of sealed glass bubbles. They form a continuous structure, so no air, moisture, vapor or fumes can get into or through the Foamglas block. In those closed glass cells, which contain still air, lies the secret of the material's permanent insulating efficiency.

For additional information see our inserts in Sweet's Catalogs

When next you face the problem of selecting an insulating material, be sure you have the latest information on PC Foamglas. You will find it in our current booklets. Just send in the convenient coupon, and your free copies, together with a sample of Foamglas will be mailed promptly.

Pittsburgh Corning Corporation
Dept. M-129, 307 Fourth Avenue
Pittsburgh 22, Pa.

Please send me, without obligation, a sample of Foamglas and your FREE booklet on the use of PC Foamglas Insulation for:

Roofs ☐ Walls ☐ Floors ☐

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City ..... State .....

PITTSBURGH PC CORNING

FOAMGLAS INSULATION

...when you insulate with FOAMGLAS...you insulate for good!

 For more information, write direct or use Reader Service post card.

comes evident that every dyer must select his own procedure and adjust it to the conditions in his dyehouse.

NYDYES. The Nydyes were marketed about the same time that the 15-den. monofilament was being introduced. The Nydyes yield a good union between the welt and main and produce all the heavy shades with a minimum of dye. They are somewhat superior in washing over the conventional acetate dyes on nylon. However, the fastness to light is not very good. It is especially the red element which disappears, leaving an objectionable greenish shade.

The Nydyes are deficient in their affinity to level off. This was illustrated by knitting swatches of fabric in which yarn from approximately 12 different cones of 40-den., 13-filament yarn was knit into one piece. If one swatch is dyed with Nydyes and another one with the conventional acetate-type dyes, greater dye differences will be observed in the stockings with Nydyes.

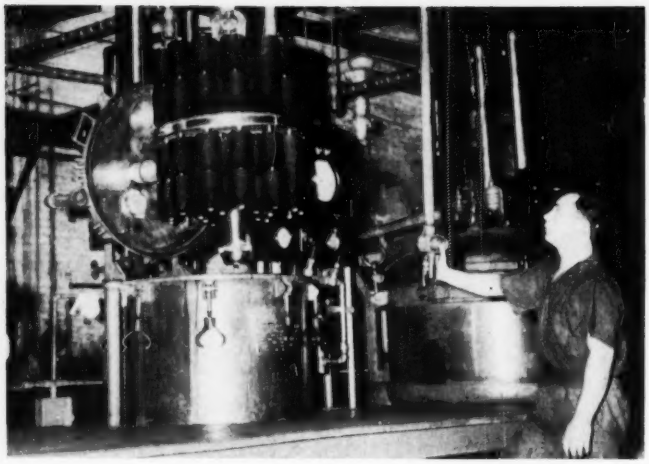
The dyeing procedure used at Berkshire for Nydyes is shown elsewhere.

An interesting experiment was conducted with dyeing assistants that are not too closely related. A sulphonated castor oil, non-ionic wetting agent, and a cationic amine were used in separate dyeing baths. After the regular dyeing procedure, the dyed stocking showed that the sulphonated castor oil dyeing was better exhausted than the non-ionic. The catonic amine prevented any color from remaining on the nylon fiber and precipatated the dye in the dye bath. Good unions were obtained with both sulphonated castor oil and the non-ionic wetting agent. The non-ionic wetting agent has the better property of retarding the Nydyes, which apparently must be done to have the dyestuffs function satisfactorily.

DIRECT DYES. Several dyestuff companies recommended direct-dyeing colors for 15-den. monofilament. The dyeing assistants were usually sulphated fatty alcohols, and ammonium chloride, ammonium sulphate, or glauber salt. When using the ammonium-chloride or ammonium sulphate method in place of the glauber-salt method, superior tinctorial value and uniformity appear to be obtained. Slightly better dyeing unions were obtained with glauber salt, but twice the amount of dyestuff was required.

Most tests that were made required a dyeing temperature between 170 and 200° F. in order to obtain tinctorial value. However, the goods after finishing had a crushed appearance.

Again the results showed that these



You Can Rely on GLOBE to DYE YARN for T-SHIRTS

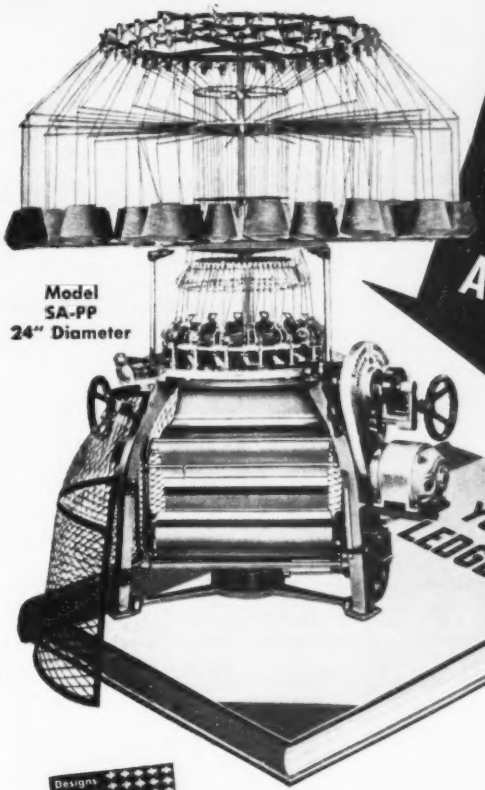
Yarns we process include cotton, rayon, worsted, nylon, blend and novelty yarns.

We do package dyeing on tubes, skein and warp dyeing, warp mercerizing and sizing.

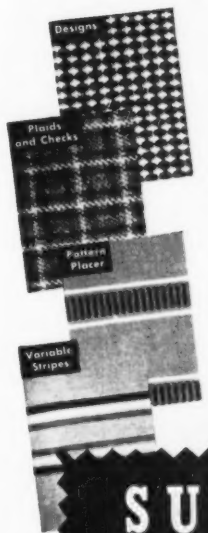
1865 Globe DYE WORKS CO. 1949

4500 WORTH STREET PHILADELPHIA 24, PA.

You will find Globe yarn dyeing service to your liking.



HERE'S WHERE THE FEATURES IN SUPREME'S AUTOMATIC STRIPERS Pay Off

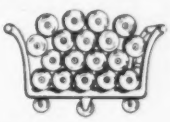


Profits show up immediately when you put the exclusive features of Supreme's SA-PP to work for you.

Here's why! Stationary yarn stand and new, unique striping system make it the World's Fastest Striper . . . 30% more poundage. Synchronized Cutters* eliminate all waste. Automatic Pattern Placers* allow you to knit plaids, checks, designs, variable stripes or Pattern Placer cloth on one machine.

Keep ahead of your competition. Investigate the simple and versatile Model SA-PP today. Write for free cloth samples and the booklet, "Variable Stripes and Plaids Pay."

EXCLUSIVE FEATURES!



30% FASTER, 30% MORE CLOTH

The cylinder and take-up revolve at the sensational speed of 24 revolutions per minute. The stationary yarn stand makes this speed possible.

"NO-WASTE" CUTTERS*

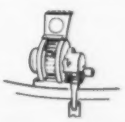
Synchronized cutters clip off and hold yarns going out of action, eliminating all waste. No heavy seam. No need to reverse cloth for finishing.

AUTOMATIC PATTERN PLACER*

Lets you place patterns wherever you want in plain or striped jersey. Uses 3-Level wheels.

STATIONARY YARN STAND

Assures trouble-free, long-life operation at continuous super-fast knitting speeds. Allows "pigtail" double tie-up of yarn cones. No brakes necessary.



INDIVIDUALLY CONTROLLED, FOUR-COLOR STRIPING BOXES*

Make stripe selecting simple and flexible. Infinite stripe and design variations. Can be manipulated to produce six-color striped fabrics.

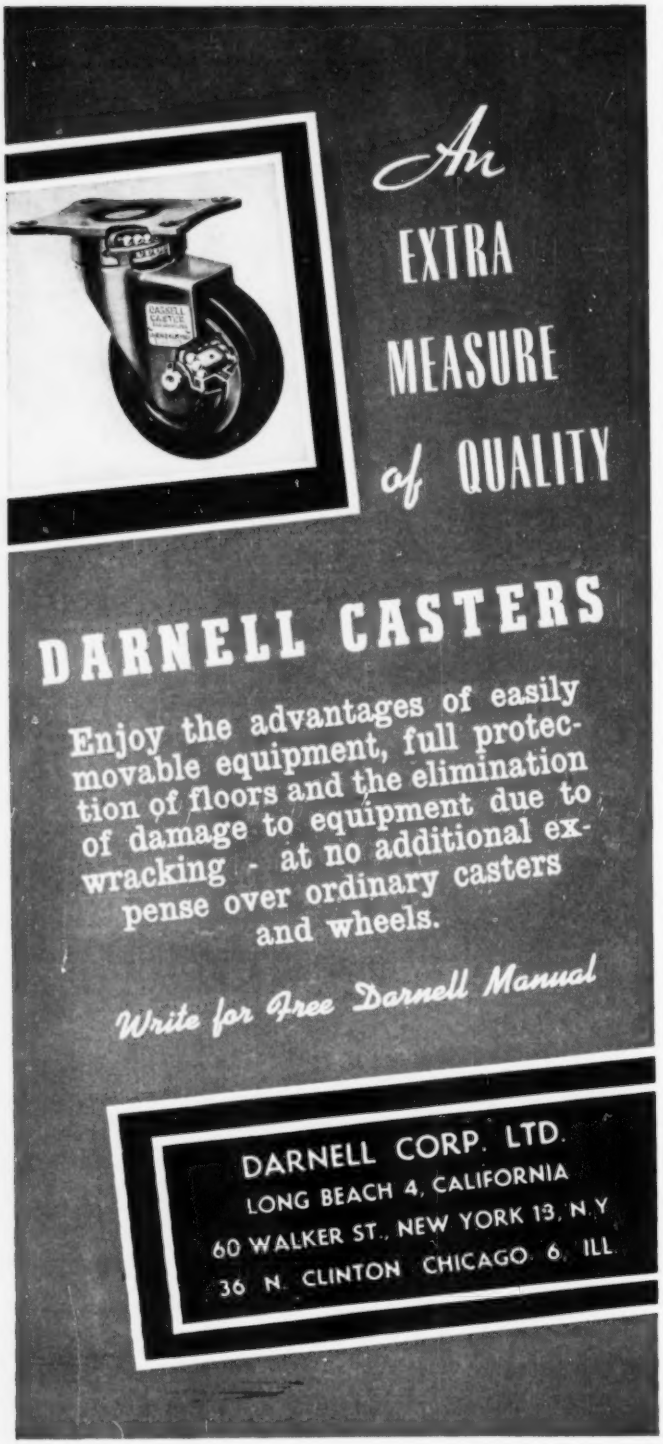
SIMPLE STRIPING CONTROL MECHANISM*

A simple, short chain with only two types of links gives varied stripe selection desired.

*Patents Applied for

SUPREME
KNITTING MACHINE CO., INC.
107 JOHNSON AVE. BROOKLYN 6, NEW YORK, N. Y.

Also builders of Supreme Model MJ Jersey Machines, Model IC Coating Machines, Model ML Pile Fabric Machines, and Model ROF "Floatless Jacquard-Type" Pattern Wheel Machines. Mills throughout the world knit with Supremes. SK-126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DARNELL CASTERS
Enjoy the advantages of easily movable equipment, full protection of floors and the elimination of damage to equipment due to wracking - at no additional expense over ordinary casters and wheels.
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DARNELL CORP. LTD.
LONG BEACH 4, CALIFORNIA
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dyestuffs will bring out the denier differences and yarn irregularities, which make them undesirable.

CHROME COLORS. In dyeing 15-den. monofilament hosiery, Berkshire experimented with the following chrome colors:

Calcochrome Red 650
Calcochrome Brown RH
Calcochrome Yellow FC
Calcochrome Black F. Conc.

Separate dyeings of each color were made using sulphated fatty alcohol as the dyeing assistant. The dyeings were started at 100° F. and raised to 180° F. with no color going on to the stockings. An addition of 5% acetic acid was required to exhaust the bath.

The individual dyeings have satisfactory unions between the multifilament and monofilament yarns.

Combination dyeings were made with the four above-mentioned dyestuffs using acetic acid and sulphated fatty alcohol as assistants. Similar troubles were experienced in that the black was the only dyestuff that exhausted from the bath. Changing the pH from 4.7 to 8.5 did not help to exhaust the brown and red. Adjusting the bath to a pH 6.9 failed to change the situation. Raising the dyeing temperature from 180° F. to a boil failed to exhaust the dyebath. Prolonged boiling caused the small amount of dyestuff that was on the welt and main yarn to migrate to the monofilament yarn.

When the above-mentioned dyestuffs were used in combinations, 5% acetic acid was added at the start of the dyeings. The rate of exhaustion was not uniform, and made it difficult to control the dyeings.

After the stockings were worked in the dye bath a short time, the dyestuff was exhausted from the bath. However, a longer dyeing cycle removed some of the color from the stockings and to become a part of the initial solution.

The neutral silk-dyeing colors, such as Neutral Silk Black BB, Neutral Silk Brown R, and Fast Silk Yellow G, when dyed in a neutral, acid, alkaline or glauber-salt bath, produced excellent unions. However, there are several objections to these dyestuffs. The individual and combination dyeings brought out denier differences and yarn irregularities, especially in the multifilament yarn. The differences, naturally, increase the percentage of irregulars. Another objection to these dyestuffs is the difficulty in matching shades. It was practically impossible to control additions, as they do not level, and at high temperature are hazardous. When shade was too heavy, it was difficult to soap

Textile Progress Report on

IONOTRON STATIC ELIMINATORS

The Ionotron Static Eliminator* was introduced to the textile industry in 1946. Since then more than 100 installations have proved their effectiveness on a variety of textile equipment, including tape condensers of wool cards, gear boxes of drawing frame delivery units, Peralta machines, ironers, hosiery boarding machines, finishing machines, and elastic thread processing equipment.

For example, in one mill the installation of an Ionotron on a Peralta machine has reduced spoilage 50%, boosted production 10%, cut operating time 10%. Wool card quality is improved because the static-free cloth no longer attracts dust and dirt. In another mill, which had attempted to reduce its static problem by excessively high humidity, the installation of Ionotrons has permitted reduction of the humidity level to a comfortable working range, and work stoppages have been greatly reduced. The installation of an Ionotron in a finishing mill has eliminated cloth swing stoppages caused by static electricity, made possible better cloth folding, and as a result reduced total stoppages of machinery throughout the plant by 20%.

How does the Ionotron work?

The Ionotron removes static charges by the ionization effect of alpha rays. These rays are emitted from a strip of foil containing a radioactive material. This source is commonly a carefully controlled (and highly diluted) amount of radium. It is the only long-lived emitter of alpha rays that is commercially available.

How safe is the Ionotron?

Because the Ionotron is one of the growing group of commercial applications of so-called "atomic energy", it has been the subject of a great deal of rumor, particularly concerning its safety. Like an electric circuit or a fast-moving shuttle, the active source of the Ionotron *could* be so misapplied that a potential hazard would result. We do not wish to cloak this fact nor to ignore the concern that you or your operators may feel about the radioactive source.

Accurate test instruments are at hand to prove that the installations are well within the conservative safety limits established by health authorities and other experts in the field.

When the Ionotron in its shielded housing is properly installed and maintained in accordance with simple instructions furnished you, equipment may be operated without hazard. On such installations, an adequate factor of safety protects even those operators who may depart from normal positions and procedures on the job. We will not recommend or furnish Ionotrons for installations when equipment construction will not permit effective shielding or if operating procedures will not permit compliance with instructions.

How much do Ionotrons cost?

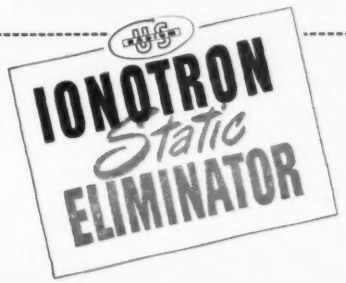
Considering the increased production you get by eliminating static troubles, and the improved working conditions your employees will enjoy due to reduced humidity, it is probable that Ionotrons are economically feasible for installation on some of your mill equipment. Prices of Ionotrons installed on Peraltas range from $200 to $240. On a tape condenser of a wool card, a complete static-elimination installation may involve as many as four bars and cost some $900. *But* — the Ionotron's first cost is its *only* cost. Moreover, its effectiveness will exceed the life of any equipment in your mill.

How can you get details?

For full details about applying Ionotrons to your worsted or wool machines, write to Davis and Furber Machine Co., North Andover, Mass.

For other textile applications of the Ionotron, send details of your static problem to Dept. V-2, U. S. Radium Corp., 535 Pearl St., New York 7.

MAIL COUPON FOR DESCRIPTIVE BULLETIN



*Dept. V-2, U. S. Radium Corp., 535 Pearl St., New York 7, N. Y.

Please send illustrated bulletin describing uses of the Ionotron Static Eliminator in textile operations.

Name _____ Title _____

Company _____

Address _____

City _____ Zone ____ State _____

*Inquiries from Canada and British Commonwealth should be addressed to Eldorado Mining & Refining (1944), Ltd., Ottawa, Ontario, Canada.

HERE'S HOW PADDOCK'S "BATTERY FILLER" TRUCKS
Lower Weave Room Costs . . Improve Efficiency!

8 REASONS

- Saves Yarn . . . Reduces Handling
- Easily Operated in Very Narrow Aisles
- Easy to Maneuver . . . Reduces Fatigue
- All-Steel Chassis Welded throughout
- Stationary Band Prevents Loom Damage
- Exclusive Design–Patent Applied For
- Standard Holds 280 Fillings—Large 490
- Lightweight . . . Easily Handled by Women

BY comparing Paddock's "Battery Filler" Trucks with ordinary trucks, you can readily see the big difference in quality . . . and in savings to your company. Sold at reasonable price, our Trucks are expertly designed in an all-steel, all-welded construction for extra sturdy service. Check the following "proven quality" facts first . . . then write or phone us today!

J. C. PADDOCK CO.
SOUTH CHURCH ST. EXT.
SPARTANBURG, S. C.

John C. Turner, Box 916 — Atlanta, Ga.
Textile Specialty Co., Greensboro, N. C.

Patent Applied For

"DAN RIVER" CHASSIS with CONTAINER. Here is the exclusive "Tilted-Type" that keeps your fillings at the lower end of the removable container . . . no stretching for fillings. Very light, it is easily handled by women. The "Dan River" Truck has the same fine quality construction details as the standard model . . . an all-steel, all-welded chassis. The stationary protective band prevents damage to the loom or container. Container holds 490 fillings. Box shown beneath tilted container is for defective fillings.

WOOLLEN AND WORSTED LOOM
OF MOST UP TO DATE DESIGN
WIDE RANGE OF OTHER TEXTILE MACHINES
FOR PARTICULARS WRITE TO
KOVO
LIMITED, METAL AND ENGINEERING PRODUCTS AND RAW MATERIALS
TRADING COMPANY
PRAHA • CZECHOSLOVAKIA

down, so that the shade could be adjusted.

20-DEN. MONOFILAMENT. The problem that confronts the dyer on 15-den. monofilament is reversed with 20-den. monofilament nylon, as the multifilament welt will dye heavier than the monofilament nylon. Considerable experimental work has been done to establish a proper balance.

Berkshire's approach to this problem was started by making individual dyeings of acetate dyes, Nydyes, and neutral silk-dyeing colors. Several ½% dyeings were made using a sulphated fatty alcohol and acetic-acid bath and dyeing at a pH of approximately 4.5. The same percentage dyeings were made using sulphated fatty alcohol and trisodium phosphate at a pH of approximately 10.5.

The problem of dyeing this combination of yarns was approached from the following angles:

a. Temperature

b. Acid, alkaline, and neutral dye baths

c. Various dyeing assistants

d. Various groups of dyestuffs and combination of groups

Experiments were conducted with acetate dyes at a temperature of 130° F. and 180° F. using for dyeing (a) 4% (wt. of material) sulphated fatty alcohol and 2% acetic acid 56% (approximate pH 4.3), (b) dyeing with 4% sulphated fatty alcohol and 2% trisodium phosphate (approximate pH 10.3). The results of both kinds of dyeings at both temperatures were the same. The welt was a bright orange and the boot a brown, showing that the blue element migrated freely. A greater percentage of dye exhausted from the acid bath in comparison to the alkaline bath.

ASSISTANTS. Various dyeing assistants, such as solvents, dispersing agents, and wetting agents were tried with the thought of establishing a good union. Some will be listed in order to help anyone that might be interested to continue this type of work. They are:

Detanol	Sulphatate B
Merpol	Dioxane
DuPonol D	Glyoxal
Igepon T	Tergitol P-28
Triton N-100	Neutronyx 330
Deceresol OT	Neutronyx 560
Tergitol #7	Carbitol
Ammonium sulphate	Morpholine Soap
Diethylene glycol	Trisodium phosphate
Tannic acid	Acid sodium phosphate
Polyethylene glycol 400 mono laurate	

All dyeings were started at 100° F.,

MEMO #6 of a Series

(1) Looking Forward
(2) Tradition or Progress
(3) Reputation or Performance
(4) Facts or Claims
(5) Take it or Leave it
(6) A Challenge

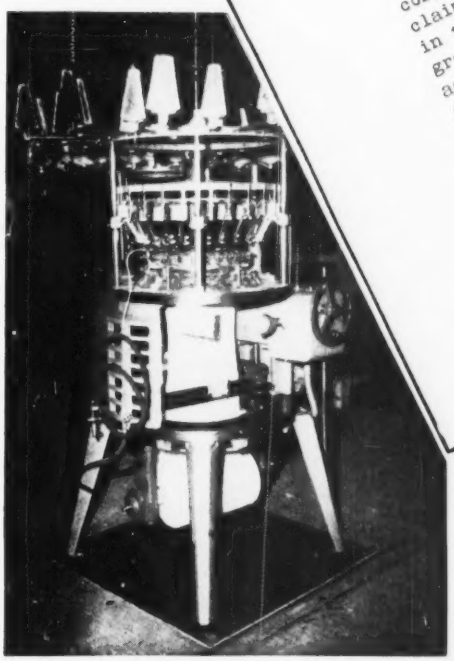
CABLE ADDRESS: EDMOSCORP, NEW YORK

EDMOS PRODUCTS *Corporation*

13 CHRISTOPHER AVENUE BROOKLYN 12, NEW YORK DICKENS 2-0172-3

A CHALLENGE

In the foregoing series of Edmos advertisements we have tried to state frankly the reason why we decided to build the Edmos knitting machine. We broke with tradition for there was no reason for just another machine. Outstanding performance, we believed, would win us a reputation second to none in the more competitive days that lie ahead. We made no claims -- we stated facts based on performance in the mills. Now we know we are on firm ground, our machines have been tested and accepted. So we challenge the men of the industry to compare EDMOS machines with any machines in the world. We're confident -- we'll guarantee our machine unconditionally, and we'll prove the EDMOS machine is best by YOUR test in YOUR mill under YOUR conditions -- and if you don't agree that the EDMOS SPEED KNIT RIBBER is the finest RIB machine in the world, we insist you return the machine to us.

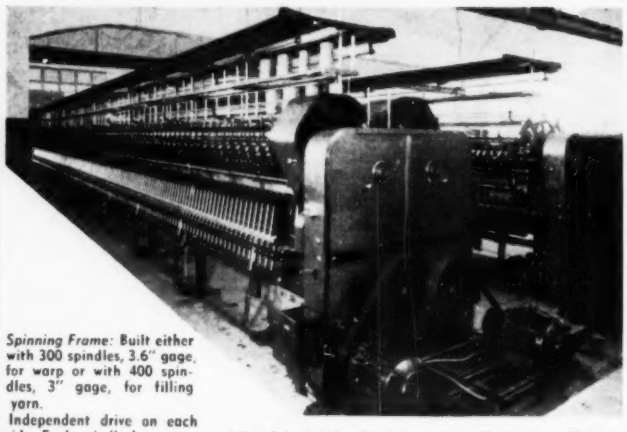


Built in the following sizes
1x1 or 2x2—8 to 16 cut

12"—16 feeds	18"—27 feeds
13"—18 feeds	19"—28 feeds
14"—20 feeds	20"—30 feeds
15"—22 feeds	21"—31 feeds
16"—24 feeds	22"—33 feeds
17"—25 feeds	23"—34 feeds
	24"—36 feeds

ILLUSTRATED: Type EEM Edmos as shown at the 1949 Knitting Arts Exhibition

WORSTED PREPARING - SPINNING & TWISTING MACHINES



Spinning Frame: Built either with 300 spindles, 3.6" gage, for warp or with 400 spindles, 3" gage, for filling yarn.
Independent drive on each side. Each spindle has automatic stop motions. Groups of 4 spindles have tape drives with tension units mounted on Ball Bearings.

O.C.M.S.A. builds the following worsted machinery: Mixing Machines — Intersecting—Gill Boxes—Porcupine Drawing Frames—Spinning Frames — Twisters. Construction is simple but sturdy. Ball Bearings. Superior in production and quality.

Officine Meccaniche Cigardi Soc. Az., Milano, Italy

Exclusive Representative for U.S.A.

Rostan Machinery & Equipment Co., 75 West St., New York 6, N. Y.

Superior Porcelain for Textile Machinery

2,000 Items

A NEW Finish that gives 50% Increased Life

Standard or Special Designs Porcelain, Enamel or Glass for Every Textile Need

PAGE MADDEN CO., INC.
Mineola, N. Y.

then raised to 180° F, and run 1 hr. at 180° F., and sampled.

The results of all the named assistants were about the same. The welt yarn (40-den., 13-filament) had a yellow-orange cast, and the main had a blue-purple cast. The dyestuffs used for these experiments were:

Acetamine Yellow N
Acetamine Scarlet B
Celanthrene Brilliant Blue FFS 200%

Additional tests were made using the conventional acetate-type dyestuffs to obtain a better union. In these dyeings, the same type of yellow and scarlet was used. The percentage of yellow and scarlet was kept the same. Fourteen acetate blues were tried. Some, according to the technical manual of the AATCC, were the same prototype; others had neither a prototype or color index. The dyeings were run in a sulphated fatty-alcohol bath for a period of 2 hr. with the maximum dyeing temperature 160° F. In the shade that was dyed, the welts had a brownish cast; and the main took on a purple cast. In other words, the balance was unsatisfactory.

STRONG ALKALINE BATH. Some dyers belive that in order to obtain a union, a strong alkaline bath must be used. Tests were conducted using the following ingredients in the dye bath:

a. 6% soap, pH 9.4
b. 6% soap, pH 10.8
   2% caustic soda
c. 6% soap, pH 10.4
   3% soda ash
d. 6% soap, pH 10
   3% trisodium phosphate

The balance between welt and main was destroyed after running the lot from ½ to 1 hr.

The neutral silk dyes and the Nydyes, when used alone, gave unsatisfactory unions. The neutral silk dyes, when dyed in a neutral bath minus glauber salt at a temperature of 180° F. did not give complete exhaustion of all dyes used. The Silk Brown R type failed to exhaust. Raising the temperature to 200° F. did not improve the condition. The addition of a small percentage of acetic acid helped to exhaust the brown, but failed to improve the union.

There are two combinations of dyestuff that gave promise to help produce fair unions. The one combination had the following dyestuffs, namely:

Fast Silk Yellow G
Fast Silk Brown R
Neutral Silk Black BB
Acetamine Yellow N

(*Continued on page 220*)

Celanese' New Staple Fiber Combines the Best Qualities of Acetate and Viscose Rayon

Celcos† . . . latest Celanese research achievement!

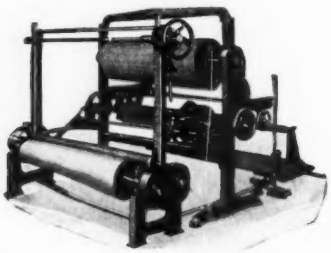
Multi-purpose Celanese* staple fiber that provides many of the features you've been waiting for. Fullness of hand. Unusual resilience. High dimensional stability. Ability to cross-dye with either acetate or viscose. May easily be blended with other fibers or spun 100%.

Ideal for new fabric effects . . . new types of fabrics. Perfect in year 'round suitings for men and women, in sportswear fabrics for sports jackets, slacks, dresses.

Celanese will help you to develop new markets and greater profits with this new staple fiber and a famous brand name.

Celanese* STAPLE FIBER OF ACETATE RAYON

*Reg. U. S. Pat. Off. †Trademark



TRADE-MARKING MACHINE

For Cottons and Rayons

The Scholfield Trade-Marking Machine prints a trade-mark at regular intervals along the selvedge of the goods. Built in different widths.

Ask us more about it!

Curtis & Marble
MACHINE COMPANY
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Sterling Ring Travelers

CONTROLS

Spinning and Twisting are controlled by the Ring Traveler.
Speed, Rings, etc. depend on what the Traveler can do.
More attention should be given to this big "little item."
Examine, Compare and Buy the Best.

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H. B. Cabaniss, Box 188, Monroe, N. C.
D. R. Ivester, Box 882, Clarkesville, Ga.
J. S. Furtado, Box 803, Fall River, Mass.

STERLING RING TRAVELER CO.
FALL RIVER, MASS.

(*Continued from page 218*)

Acetamine Scarlet B
Celanthrene Brilliant Blue FFS 200%

The dyes were worked in the following baths:

a. 4% sulphated fatty alcohol, pH 7.9

b. 4% sulphated fatty alcohol
1% acetic acid 56%, pH 5.2

c. 4% sulphated fatty alcohol
10% tannic acid, pH 5.4

The second combination of dyestuffs, which are even better than the first combination, are as follows:

Acetamine Yellow N
Acetamine Scarlet B
Celanthrene Brilliant Blue FFS 200%
Nydye Blue GB

All experiments conducted with above combinations were dyed with 4% sulphated fatty alcohol. The dyeings were started at 120° F., raised to 180° F., and run at 180° F. for ½ hr. To study the migration of the dyestuffs, the dyeings were run for periods of 2½ hr. These experiments were repeated, and the dyeing temperature reduced to 160° F. In this latter test, the union appeared better than the one obtained at 180° F.

FINISHES. Most textile fibers and fabrics possess certain characteristics such as raised filaments or slight manufacturing defects which can be corrected by mechanical means or chemical treatment to produce first-quality merchandise. In order to help correct these irregularities, chemical finishers were developed and marketed.

Gum, glues, waxes, and starches have been replaced to a large extent by synthetic resins. The synthetic resins fall into two main classes, the thermosetting and the thermoplastic. The hosiery finisher is primarily interested in the latter, because they soften upon heating and remain in that condition until cooled.

Today the following resins are recommended for hosiery finishing:

a. Polyvinyl type with modifications.

b. Acrylic.

c. Polystyrene.

The polyvinyl-type resins give a firm, dry, crisp hand. The acrylic and the polystyrene, when used alone, give a soft, damp, limp hand. When the latter are used in conjunction with the polyvinyl type, the hand is improved; but it still retains to a certain degree a soft and limp hand. With the polyvinyl type, basing percentages on weight of goods and nets, satisfactory finishes can be obtained by varying the percentage from 3 to 6%. When using the acrylic type, 8% or over does not add any greater

REDUCE POWER COSTS

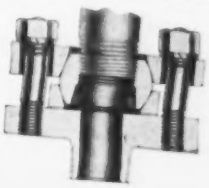
WITH THE

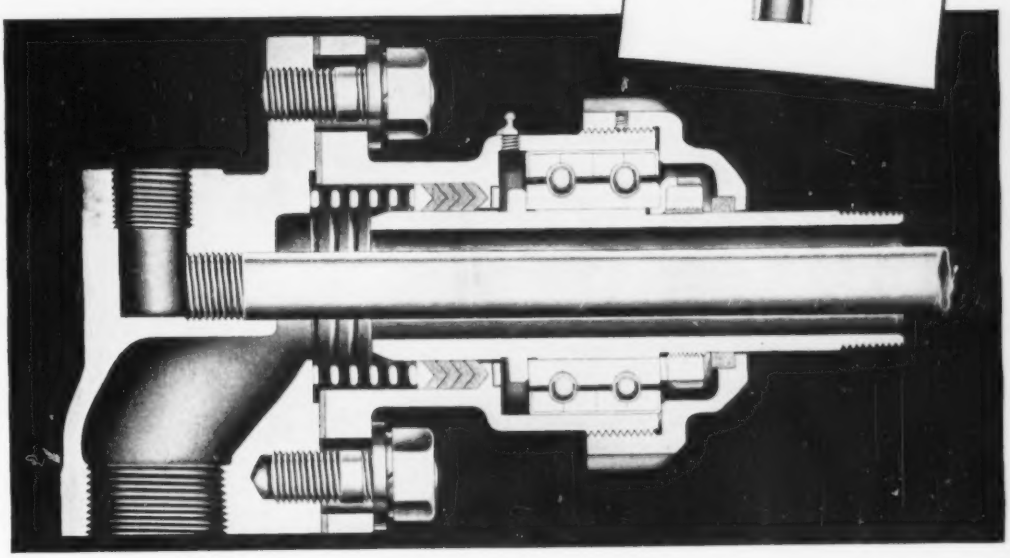
BARCO

REVOLVING JOINT

BARCO BALL FLANGE

Cross-section view of Barco Ball Flange for use on threaded and flanged rolls and for correcting roll misalignment. Sleeve can rotate concentric even though threads on roll are tapped off center.





Designed especially for the Textile Industry

Barco has a lower turning torque, which reduces power costs. This revolving joint is made for all types of rotating applications such as slashers, calenders, sanforizers, and dry cans. In textile weaving and finishing plants, as well as bleacheries, Barco minimizes steam leaks, cuts maintenance worries to rockbottom levels.

For more particulars about this and other Barco Flexible Joints for the textile industry, write Barco Manufacturing Company, 1834 Winnemac Avenue, Chicago 40, Illinois. In Canada: The Holden Co., Ltd., Montreal, Canada.

BARCO FLEXIBLE JOINTS

Not just a swivel joint ...but a combination of a swivel and ball joint with rotary motion and responsive movement through every angle.

FREE ENTERPRISE—THE CORNERSTONE OF AMERICAN PROSPERITY

"MOVE IN EVERY DIRECTION"

 For more information, write direct or use Reader Service post card.

NOW TEXTILE FINISHES AND STARCH SIZINGS

CAN BE MADE WITH

improved quality and texture

WITH THE

TRI-HOMO

triple homogenization

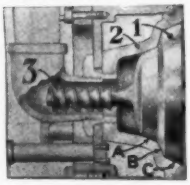
HOMOGENIZER

Thorough emulsification of starch sizing used in slashing. Less time required for preparation, lower temperatures, less material used, controlled penetration, less flaking, no dumping of batches.

Equally as efficient for pigments, dyestuffs, starches, resins, etc., used in finishing plants.

Only the Tri-Homo gives *triple dispersion* simulating the action of three separate grindings all in one operation.

Write O. B. Graichen, Textile Division, 50 Borden Street, Providence, R. I.



Cross Sectional view showing triple dispersion at A-B & C

● Send for illustrated folder, "Triple Dispersion in One Operation."

TRI-HOMO Corporation
SALEM MASSACHUSETTS

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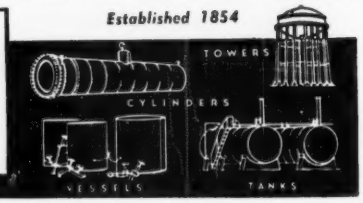
PRESSURE VESSELS FOR TEXTILE LIQUIDS

• Cole builds vessels to your specifications — dye-vats, kiers, starch-kettles, acid tanks, jib boxes, or other processing vessels for the finishing and dyeing industry . . . in stainless steel, nickel-clad steel, or of standard steel lined with monel metal. Our long experience in the design and fabrication of vessels for the textile industry may be of help to you. Write for latest Cole catalog—"Tank Talk."

Established 1854

R. D. COLE MANUFACTURING CO.
NEWNAN, GA.



value in appearance or snag resistance of hosiery. The same is true for the polystyrene type. Some processors believe a superior finished product will be obtained if the final drying or boarding operation is done at a temperature of 170 to 200° F. At these temperatures, the resin flows more freely, thereby spreading itself around the fiber.

Other finishers claim that in order to obtain the best hand and excellent layout, the drying temperature should not be over 150 to 160° F.

Up to now, no finish will satisfactorily dull 15-den. monofilament stockings or can be relied upon in successive dyeings. The finishes that have been recommended for dulling are mostly of the inorganic type, very similar to the dulling agents employed on silk.

In order to reduce snags or menders that happen from preboarding on, some finishers have been successful by combining both the acrylic or the polystyrene type with the modified vinyl type, and adding to the exhausted bath a high percentage of a wax emulsion. Excellent lubricity appears to be obtained minus the softness which might be acquired using a cationic softener. When making physical tests to evaluate for snags, the results obtained using National Association of Hosiery Manufacturers method and the sandpaper method are not always in agreement.

When making physical tests of resin finishes, Berkshire has followed and used the sandpaper method developed by Dr. Smith of Du Pont. For 30- and 20-den. multifilament stockings, a 3/0 sandpaper is used, for 15-den. monofilament, best results are obtained with a 2/0 sandpaper.

Trash Removal From Wool

(*Continued from page 116*)

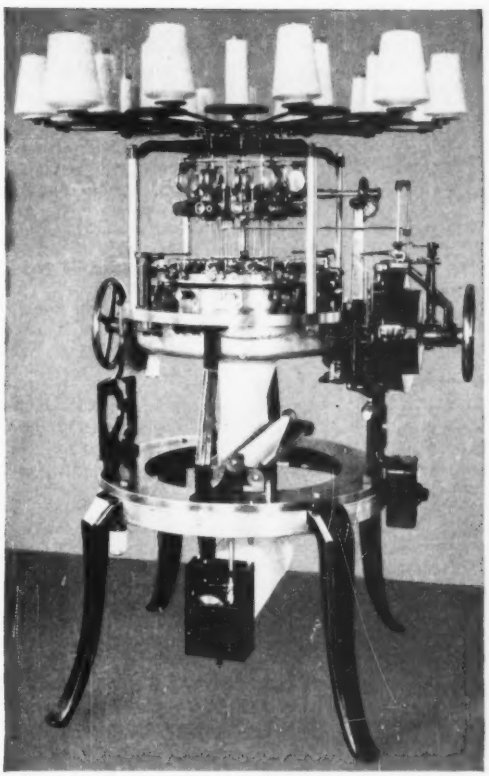
tioner, showed many pieces of burrs, yarns, and hard ends.

The finisher-card sliver from the set with the fiber conditioner was free from burr particles. The small amount of other impurities present indicated that the conditioner improved the preparation of the breaker-card sliver and permitted a greater removal of foreign matter by the finisher card. An examination of regular finisher-card sliver, without the conditioner, showed many impurities present. Similar impurities had been removed from the stock by the conditioner and finisher card on the other set.

BETTER-QUALITY CLOTH. Plant Su-

BECAUSE OF ITS REMARKABLE

ADAPTABILITY



to YOUR Plant and YOUR Product

You will want to know all about this Wildman Spring Needle Knitting machine. Whether you knit Bathing suits or the finest dress and underwear fabrics, there is a style and gauge to meet your most exacting needs. It feeds yarn under such even tension that uniformity of fabric is a natural result. Its flexibility offers many style opportunities. Let us tell you some of its many other advantages.

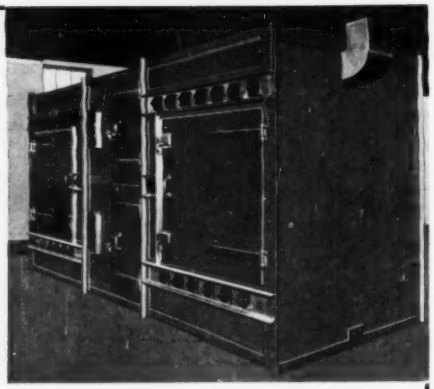
For Better **STYLE**
Finer **QUALITY**
Greater **VOLUME**
and very fine **GAUGES**..

The
WILDMAN
Spring Needle Knitting
MACHINE

THE WILDMAN MFG. CO.
Norristown, Pa.

GET FASTER EVAPORATION WITH THE DIRECT FIRED

Automatic
CLOTH DRYER



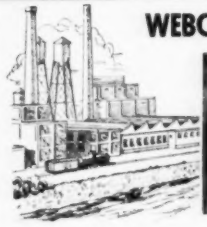
The I.H.E. Dryer is well constructed and compact, requiring a space 15 ft. by 8 ft. by approximate width of cloth. Evaporating capacity for this size is 900 pounds per hour. The machine is recirculating type. Write for detailed information about this or similar machines.

A FULLY AUTOMATIC DIRECT FIRED DRYER

- Low Operating Cost
- Full Automatic Operation
- Cannot Burn or Tender Cloth
- Gas or Oil Fired
- Requires No Steam
- High Fuel Efficiency

INDUSTRIAL HEAT ENGINEERING CO.
Textile Drying, Curing and Singeing Equipment
121 CLEVELAND ST. • GREENVILLE, S.C.

WEBCELL CONTINUOUS DIALYSERS

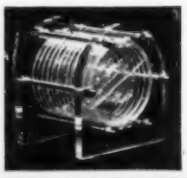


TYPICAL LARGE BATTERY INSTALLATION OF WEBCELL DIALYSERS IN VISCOSE RAYON PLANT FOR THE RECOVERY OF CAUSTIC SODA

DIALYSIS MAY BE THE SOLUTION OF YOUR PROBLEM TO AVOID STREAM POLLUTION AND TURN LIQUID WASTE INTO PROFIT

Industries employing certain liquid solutions in their process are confronted with the problem of stream pollution in the disposal of waste. Dialysis may be the solution for you, as it has for others, to a low cost method of preventing stream pollution—plus the saving of the cost of a neutralizing agent and a profit from waste through recovery.

The process is now in profitable operation in many fields for the:



RECOVERY OF ALKALIS & ACIDS • REMOVAL OF ACIDS, ALKALIS OR OTHER NON-WANTED MATERIALS • PURIFICATION OF SOLUTIONS • MANUFACTURE OF BY-PRODUCTS

LABORATORY MODEL

For experiment work in the study of dialysis. The model is made of lucite and clearly shows the action of transfer and separation. The results obtained can be closely translated into terms of expectancy from the larger production units.

For further information, write for bulletin 5B.

BROSITES MACHINE COMPANY INC.
50 CHURCH STREET (Cable Address—BROMACH) NEW YORK 7, N. Y.
TELEPHONE DIGBY 9-3600

perintendent Holbrook stated that the cloth made from stock processed on the fiber conditioner shows improved quality. Fewer imperfections are caused by hard ends and other impurities in the yarn. This better quality was evident in a comparison of the two samples of cloth made from the stock from the two sets of cards tested.

In the Perkins fiber conditioner, bending and tension applied concurrently by precision-ground annular-grooved extender rolls break up foreign matter without any apparent damage to the wool fibers. These steel rolls have a minimum separation of 0.002 in. The dimensions of the burrs, dried grass, and other impurities are greater than those of the wool fibers. The bending action breaks up the foreign matter and permits separation by tension. The wool fiber is not injured by the tension or bending because the natural crimp affords ample slack and elasticity.

The suspension and alignment of foreign matter is attained by three sets of high-velocity slip-drawing or drafting rolls.

The floor space required for a complete fiber conditioner unit is only about 7 in. of aisle space. No removal or relocation of any large card part is needed. The feed is directly into lower rolls of the machine and straight up through the conveyor on top; thus the conditioner replaces a part of the conventional conveyor. No additional help is required to operate the conditioner, and only slight additional work is needed to empty the waste-collecting trays under the rolls.

With the additional removal of foreign matter possible with the fiber conditioner, it is claimed that cheaper wool mixes can be run with no loss of quality in the finished product.

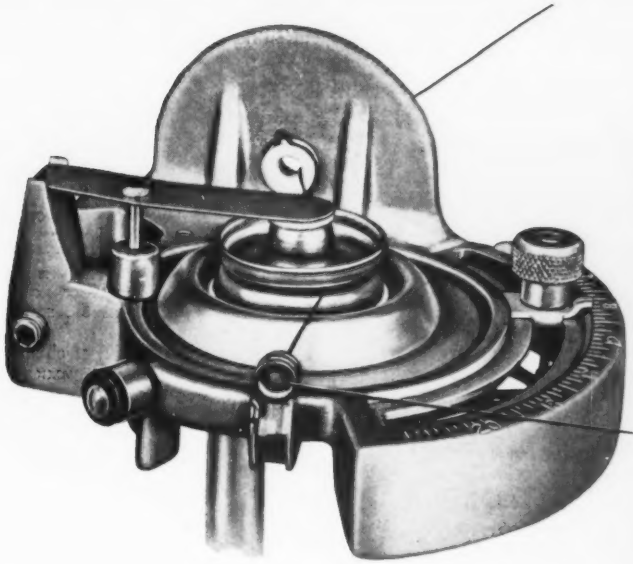
Novel Hosiery Heels

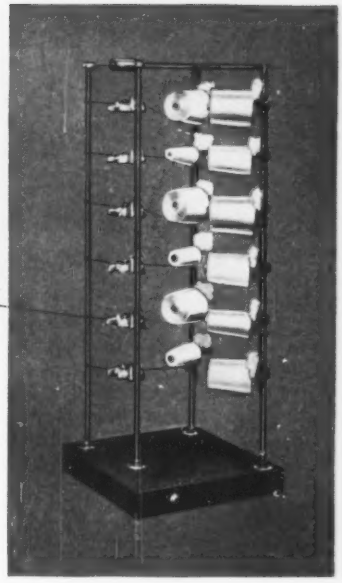
(*Continued from page 108*)

done by increasing the movement of the regulating shaft during the coultering over these parts or sections of the stocking. This increased movement of the regulating shaft will cause the needles to move closer to the pressure edge and allow the sinkers and dividers to extend farther between the needles. This extended position causes more yarn to be drawn.

The Reading and Kalio machines use as standard equipment on their late models a variable camshaft rocker that has a wide range of coverage adaptable to most styles.

On the Reading machine, the pointex or French-heel attachment con-





UNIFORM TENSION

on EVERY warp end at higher speeds!

THE *KIDDE* WARP COMPENSATOR is the *first* fully compensating tension device specifically designed for warping service. It maintains perfectly uniform tension on every warp end. It eliminates stressed yarns and streaky warps. It gives more yardage on your beams with less strain. It allows warping at *higher speed* with less down time caused by breakage or loose end stoppage.

These outstanding results are obtained by the action of yarn tension upon a control arm, which varies the pressure of pre-loaded discs to maintain c nstant output tension. This new *Kidde* device applies to warping tension problems the same principle that has so thoroughly demonstrated its effectiveness in the standard *Kidde* Tension Compensator.

Production is getting under way on the Warp Compensator – place your orders now for delivery at the earliest possible date.

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Kidde

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Please send me additional information on the new *Kidde* Warp Compensator.

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Company _____

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SOAP and FLAKES!

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DRUMMOND leaves fabrics clean . . . softer . . . colorful . . . ending once and for all your scouring and finishing problems!

Both DRUMMOND Soap and Flakes have the advantage of high body and low alkali content—an advantage that leaves fabrics clean with a downier feel, brighter color and whiter white.

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QUALITY YARNS
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LAZENBY FILLING WINDERS

For Cops, Butts or Bobbins, LAZENBY has the FILLING WINDER correctly designed and equipped to handle any kind of yarn going into the shuttle, for either plain or automatic looms.

Send us a small supply of your yarn and we will wind and return with Testwind Report and Catalog.

F. A. LAZENBY & CO.
3106 Elm Ave. Baltimore, 11, Md.

sists of two single-threaded spindles, one on the left and one on the right end of the machine. The travel of the reinforcing carriers is governed by the spindles and controlled directly by the main chain motion.

The Kalio machine pointex attachment also uses two single-threaded spindles, but the spindles are attached together and are located in the same position on the machine. The one big difference from the Reading is that the Kalio pointed racks operate from a special pointex pattern chain, whereas the Reading pointex racks operate, as mentioned, from the main chain motion.

The Reading and Kalio machines both have the two-needle movement incorporated in their rack design.

With the added feature of the split-sole attachment on the machine to give additional stops when needed for various heel designs, it is now possible to make any of the heels shown in the accompanying illustration. Since some of the heels pictured are being patented, no details of construction will be given.

AATCC Annual Meeting

(*Continued from page 113*)

nite R-1 is also said to be highly reactive and to be effective in extremely low concentrations.

The new chemical is said to impart exceptional stabilization and crush resistance. The product is available for immediate shipment in commercial quantities in 500-lb. drums.

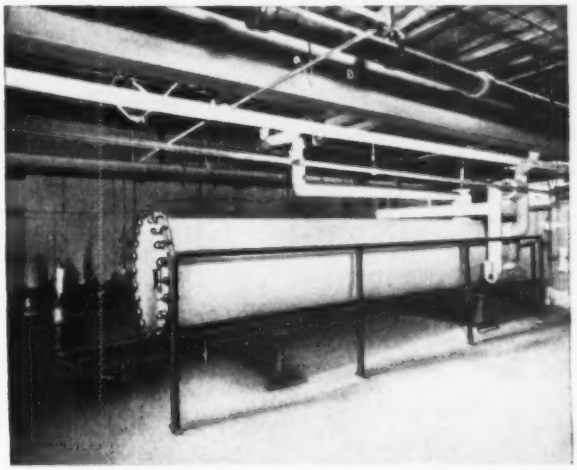
➤ A chrome-steam process for dyeing nylon with chrome dyes, in which shades and strength of the same dye do not vary from dyeing to dyeing, was exhibited by Geigy Co., Inc., 89-91 Barclay St., New York 8, N. Y. In the new process, chrome-dyed nylon is treated with steam under pressure in package-dyeing machines. The steaming process causes the chrome dyes, previously considerably more difficult to lake on nylon than on wool, to become developed. In this way, a range of shades is produced on nylon which is said to have excellent color yield and superlative wet fastness, including fastness to boiling, soap, severe perspiration, fulling, and wet crocking, and to have very good light fastness.

Not all chrome colors can be used with the chrome-steam process, but a wide range of colors is recommended by the company for use in the new method. Some chrome colors are faster to light on nylon when applied by the Geigy chrome-steam method than they are on wool by conventional methods.

Almost without exception, package machinery presently installed is adaptable to the chrome-steam method. The only modification required is the installation of valves to seal off the dyeing chamber to prevent the rapid deterioration of pump

Is Your Sewer Temperature Over 120° F.?

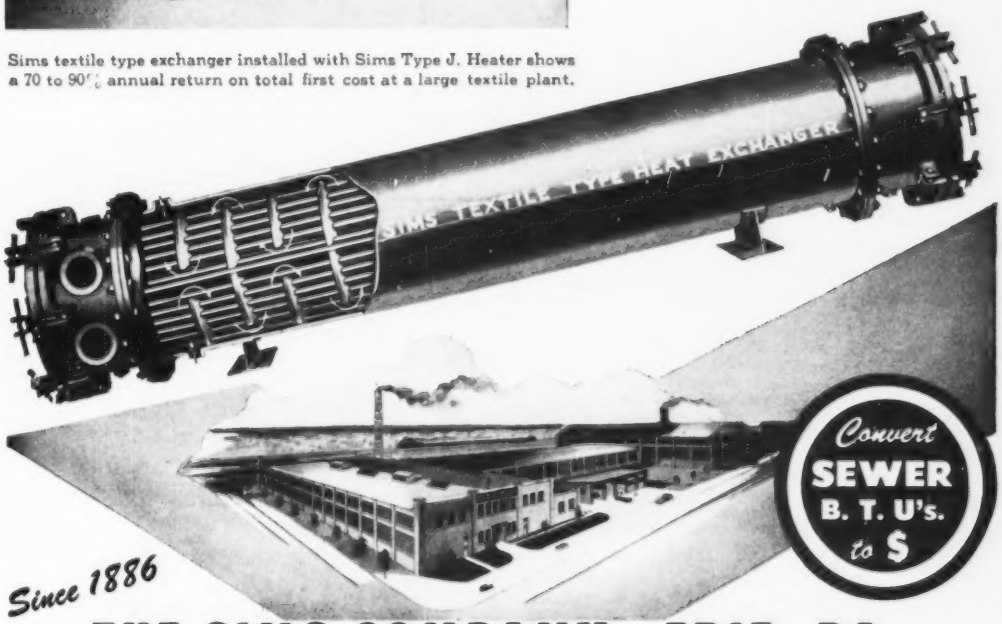
Then You Are Wasting Valuable B.T.U.'s That Sims Will Convert Into Hot Water For Processing.



Sims textile type exchanger installed with Sims Type J. Heater shows a 70 to 90% annual return on total first cost at a large textile plant.

Linty contaminated sewer water was a problem until Sims discovered how to handle it. One textile plant was planning a boiler addition for producing more hot water—a Sims Survey proved that hot sewer water directed thru a Sims Heat Recovery System provided the extra hot water capacity at almost no fuel cost and will show a 70 to 90% return each year on the total cost of the installation. Investigate the Sims Method that converts wasted B.T.U.'s into profit B.T.U.'s.

THE SIMS CO., Box 1096W, ERIE, PA.



THE SIMS COMPANY • ERIE, PA.

Manufacturers of Exhaust Gas Boilers • Heat Exchangers • Storage Water Heaters • Feed Water Heaters Steam Separators • Commercial Type Instantaneous Water Heaters • Oil Heaters • Quenching Oil Coolers Caustic Soda (Sodium Hydroxide NaOH) Recovery Equipment and Unit Type Coal Pulverizers

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THIN BOILING STARCH

- Always uniform
- Always dependable
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Keokuk, Iowa—Est. 1881

LONG VEGETABLE FIBERS

Manila, Sissal, Jute, Flax, and Related Fibers of Commerce

By LUDWIG WEINDLING

This study is the first and only source of information on the commercial and industrial aspects of long vegetable fibers—a vital product in national security. Mr. Weindling, a consulting engineer who was during the war Special Advisor on Textiles to the War Production Board and the combined British-American Materials Board, knows his material first hand.

The overall treatment presented in this book covers the growth, manufacture, marketing, and converting phases of the fibers industry; the size and history of the industry; numbers of employees; working conditions; capital investment, profits and future outlook. The scope is international, with emphasis on the American scene.

Tables, illus., map

$5.00

Columbia University Press
2960 Broadway • New York 27, N. Y.

▶ *THE ACCELEROTOR, a new laboratory instrument for rapid testing and treating of textiles in minutes rather than hours, has been produced by Atlas Electric Devices Co., 361 W. Superior St., Chicago, Ill. A 4-min. run in the Accelerator is said to produce the equivalent effect of about 30 commercial launderings. A 4-min. run is also said to predict color loss which would require nearly a month to obtain by commercially laundering samples. The instrument is also useful in selection of dyes, individual or compound shades, with respect to fastness to abrasion in laundering. The instrument can also be used in studies of dyes and dyeing; degradation due to wear, flexing, and abrasion; wet and dry abrasion; evaluation of detergents and soils; and shrinking and tumbling.*

gaskets or packing when subjected to steam and pressure.

The chrome-steam process can also be applied to nylon garnet and staple in closed pressure stock-dyeing machines. Dark shades which are difficult to produce with other dyestuffs are said to be obtainable for blending with wool for fabrics requiring fulling and scouring, as well as for those end uses for which very good overall fastness is necessary. The chrome-steam process is said to be the only dyeing method by which nylon can be colored with a fastness exceeding that of the wool with which it is blended.

It is also believed that the chrome-steam method can be applied for obtaining results on piece goods with maximum fastness properties. The Geigy Co. is currently experimenting with the Gessner wool-decatizing machine which offers possibilities for applying uniform steam pressure throughout an entire roll of nylon fabric.

Use of the chrome-steam method for dyeing nylon is said to offer the mill the greatest wet fastness obtainable on nylon, particularly in heavy shades; lowest dyeing costs for fastness obtained, consistent repetition of shade; with established formulations; and adaptability to present dyehouse closed equipment.

▶ A new permanent mothproofing compound, Mitin FF Conc., has been developed by Geigy Co., Inc., 89-91 Barclay St., New York 8, N. Y.

The new mothproofing compound is a coal-tar derivative which, in all essentials but color value, can best be described as having the characteristics of an acid milling dyestuff. The compound is said to

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...With Buying Information

Responsible for purchasing machinery, equipment and supplies for his firm, William C. Lazarus, of Stanley Dyeing & Finishing Company, Inc., Catasauqua, Pa. lightens his job by regular consultation and use of a comprehensive, handy source of Buying Information—McGRAW-HILL's PRE-FILED TEXTILE CATALOGS.

To quote his own words: *"We use your Catalogs almost daily in inquiring about and purchasing equipment for our plant."*

If PRE-FILED TEXTILE CATALOGS is not available for buying reference at your mill, write to McGRAW-HILL CATALOG SERVICE, 330 West 42nd Street, New York 18, N. Y. There is no charge to qualified users.

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The name that means leadership in

CHEMICAL SPECIALTIES

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PIECE DYEING

PACKAGE DYEING

BEAM DYEING

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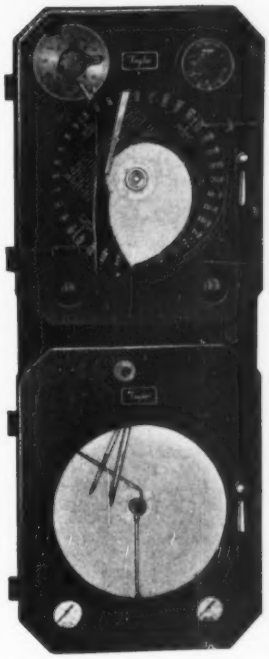
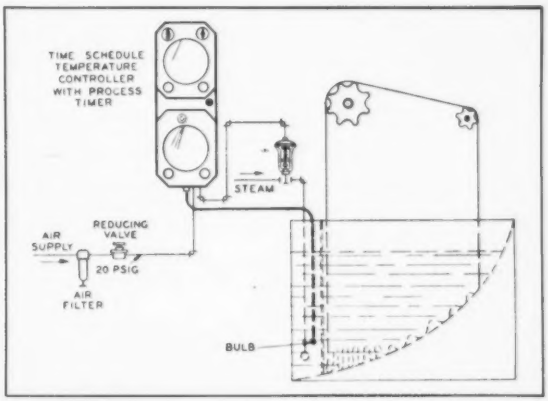
TOP DYEING

at lowest cost — with Taylor Control!





Rise Period Fixed	Hold Period Fixed Hold Temp. Fixed	
Rise Period Fixed	Hold Period Adjustable Hold Temp. Fixed	Add Periods Fixed
Rise Period Adjustable	Hold Period Adjustable Hold Temp. Fixed	Add Periods Adjustable
Rise Period Adjustable	Hold Period Adjustable Hold Temp. Adjustable	Add Periods Adjustable

WHETHER your process involves piece dyeing, package dyeing, beam dyeing, skein dyeing, or top dyeing, this Taylor system automatically controls temperature and time according to a predetermined schedule. Other systems are available to meet requirements (see chart above) where complete flexibility is not required. They all save you money these four ways:

1. **By assuring uniform dyeing conditions**
2. **By cutting operating costs**
3. **By preserving quality of dyed wool**
4. **By eliminating expensive human error**

All your operator has to do is push a start button—and the Taylor Time Schedule Controller (above left) takes over. Then all this happens automatically:

(a) Steam enters dye kettles.

(b) Rate of rise is controlled according to a predetermined setting.

(c) Precise dyeing temperature is maintained during hold period until end-of-cycle signal flashes.

If an add-period is needed, your operator simply resets hold time dial. He can run any number of add periods until the shade is matched. He then presses a return-to-start button which shuts steam off and returns cam to start position. With the Taylor Time Schedule Controller, *you don't have to cut cams* in changing rise and hold time or temperature.

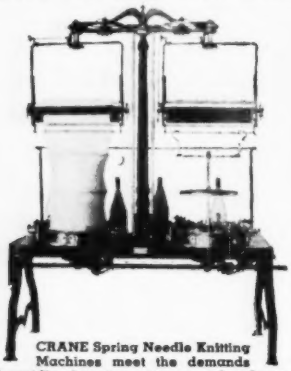
This is just one of many ways Taylor can help you cut costs in woolen and worsted processing. Write for Bulletin 98199—it gives you the whole story! Taylor Instrument Companies, Rochester, N. Y., or Toronto, Canada. *Instruments for indicating, recording and controlling temperature, pressure, humidity, flow and liquid level.*

TAYLOR INSTRUMENTS MEAN ACCURACY FIRST

1870 **CRANE** 1949

SPRING NEEDLE KNITTING MACHINES

Speed - Quality - Low Cost



CRANE Spring Needle Knitting Machines meet the demands of rapidly changing patterns and styles on all weights of fabrics.

CRANE

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ALUMINUM CLOTH ROLLS

Heat-treated aluminum castings, funnel shaped on inside to facilitate insertion of through shaft

High strength heat-treated aluminum alloy tubing, free from splintering & distortion, cannot rust and no fire hazard

Wilgrip Special finish eliminates need for starting slot or irregular contoured roll.

Now in Standard Use in Many Mills

Inert gas welded joint. Standard sizes 3-½" & 4-½" diameter, any length, other sizes quoted on request. Journal ends can be furnished.

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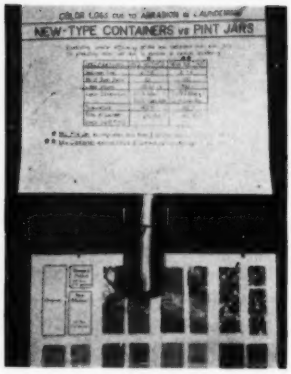

▶ ***NEW TYPE CONTAINERS** for studying color loss due to abrasion in laundering in the Launder-Ometer are available from Atlas Electrical Devices Co., 361 W. Superior St., Chicago, Ill. The new container is said to approximate five commercial launderings in 45 min., whereas the standard pint jar previously used accomplishes less than one commercial laundering in 45 min. The new container permits use of a larger specimen, uses 100 steel balls instead of ten, has half the liquor volume, uses less chemicals.*

have a natural affinity for wool. The application is also said to be very simple. The products may be applied simultaneously with the dyestuff in the regular dyeing operation employed for woolen piece goods, yarns, raw stock, or tops, with no effect on the ultimate shade, the manufacturer states.

Wool treated with Mitin FF Conc. is said to be indistinguishable from untreated wool in handle, appearance, or odor. The compound is said to have no toxic effect on humans.

Because of its affinity for the wool fiber, the product has excellent penetrating properties, and thus finds its way throughout the fiber or yarn to which it has been applied, the company states.

Mitin FF Conc. is reported to have excellent resistance to light and does not affect the light fastness of dyestuff with which it is used. The mothproofing is said to withstand the five washings prescribed in the tentative testing method of the AATCC. The product is said to be fast to repeated, normal, cautious household washings, and to withstand dry cleaning. Wool treated with the product can be carbonized without affecting the efficiency of the mothproofing. The chemical is said to be unaffected by salt water, as well as such finishing operations as decatizing, wet finishing, singeing, tentering, napping, and shearing. Wools treated with Mitin FF Conc. can receive a subsequent bleaching with either sulphur dioxide or hydrogen peroxide without impairing the mothproofing qualities.

▶ The Color-Eye, a new industrial color-measuring and comparison instrument designed to replace the human observer in precise color-matching is available from Instrument Development Laboratories,

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MELLOR BROMLEY CIRCULAR KNITTING MACHINES IN THE U. S. A.

Mellor Bromley and Co. Ltd., Leicester, England—builders of the famous Mellor Bromley Interlock and other underwear and outerwear machines—seek a live organisation to sell their products in the U.S.A.

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IT'S WHAT IS IN THE DRUM THAT MAKES THE DIFFERENCE

SEMICAT-C

A New
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Improves
The Hand of
WOOL, COTTON
NYLON, RAYON

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Not Darken
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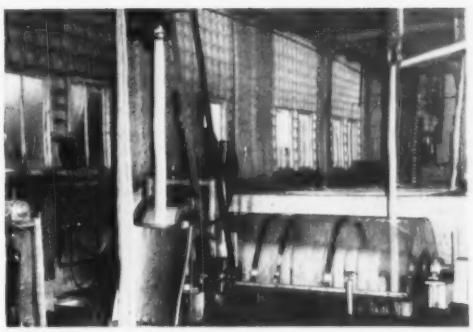
L. E. Oliver, Bleachery Supt., Exeter Mfg. Co., says:

"We're getting much better control, greater efficiency and substantial cost reduction with our Du Pont systems"



"We are receiving from our Du Pont Bleaching Systems a control over our products which we never could have hoped for on the old system. Also, we have a much better efficiency rate per hour, and therefore a substantial reduction in labor cost."

• • •

Exeter has two Du Pont systems—a rope system installed in July 1948 and an open-width system which went into operation early this year. With these systems they expect to put through approximately 50 to 60 million yards of cloth annually, ranging from the sheerest of cotton fabrics to very heavy ducks. This range will include shirting, dress goods, rainwear, surgical trade, linen supply, work clothing, drapery and slip cover materials, bias binding, etc.

• • •

All over the country the Du Pont Continuous Peroxide Bleaching System is gaining increasing recognition as the right answer to modern bleaching needs. It's continuous, it's speedy, and it permits quality production. What's more, it's most economical, and is adaptable to mill requirements.

TO BLEACH MORE GOODS FASTER AT LOWER COST

There's a Du Pont System to meet your specific requirements. Du Pont technical service men will help you select equipment and start up your process. Just write E. I. du Pont de Nemours & Co. (Inc.), Electrochemicals Dept., Wilmington 98, Delaware.

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...THROUGH CHEMISTRY

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Electrochemicals Department, Wilmington 98, Del.

Please send me more information about Du Pont Continuous Peroxide Bleaching Systems.

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unique

BUSINESS GIFT

gives fabric counts

accurately, directly, without eyestrain

A BOX OF CIGARS is soon smoked! A watch costs far more and is looked at less often! But the precision-engineered Micro-Line Counter is a gift of lasting value . . . one that textile buyers and executives will use and carry with them day in, day out for years.

HERE'S WHY! The Micro-Line Counter is a scientific instrument that gives **accurate, instantaneous** fabric counts—from 40 to 150 per inch—of plain-woven goods such as cottons, sheetings, percales, rayons, nylons, linens, silks and tropical worsteds. It will also give the pick on most twill or satin weaves as well as the wales and courses on tricots and plain knits.

FREE, 4-page folder shows how intense, lens-sharpened moire patterns point to the exact count. Far superior to the slow, old-fashioned method, the Micro-Line Counter **does away with the tedious work of counting individual threads . . . saves time . . . eliminates the torture of eyestrain . . . prevents errors in count.** Your company name, personalized imprint, trade mark, slogan or message can be engraved or heat-stamped on the opposite side of the Micro-Line Counter or on the fine-grained black leather case.

Manufactured by

MICRO-LITE COMPANY, INC.
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Mail coupon now for free folder and prices

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Gentlemen: Without obligation, please send me free illustrated folder giving full information and prices on the Micro-Line Counter.

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Inc., 163 Highland Ave., Needham Heights 94, Mass.

The instrument incorporates electronic and optical techniques to simulate the response, sensitivity, and discrimination characteristics of the human eye. Inaccuracies due to stray light, variations in photocell characteristics, or illumination-level variations are said to have been eliminated by the basic design of the measuring system.

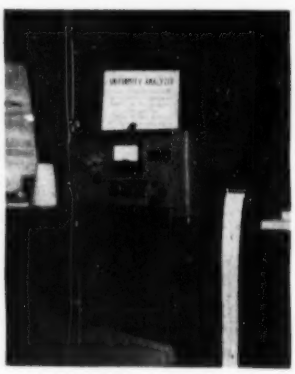
In comparing samples, the color eye automatically accommodates itself to the illumination level of the samples. The range of automatic accommodation of the instrument is such that sensitivity exceeds that of the human eye for variations in brightness of 10,000 to 1. This range permits comparison of samples reflecting only 2% to an accuracy of ½% of reflected light.

To make measurements that are truly based on color, regardless of illumination intensity, the instrument computes the ratio of sample brightness to standard brightness. This ratio is indicated on a wide scale direct-reading meter, with full scale range of 90 to 110% (differences of plus or minus 10% in brightness). A less sensitive scale is provided covering 65 to 150% ratios. For all practical levels of illumination, the minimum brightness difference between two samples that is perceptible to the human eye is substantially constant at 2% of the mean brightness level. In terms of Color-Eye meter readings, this represents a brightness ratio of sample to standard of 98% or 102%.

The Color Eye is suited to diversified uses. It will measure reflection or transmission samples of almost any physical dimensions from ½ in. minimum diameter. Light weight permits easy portability.

▶ A uniformity analyzer designed to measure and make a permanent record of the irregularities and weight per unit length of yarn, roving, and sliver has been developed by Institute of Textile Technology, and will be manufactured and distributed by Brush Development Co., Cleveland, Ohio. As material is passed continuously through the measuring head of the analyzer, the cotton count at any given point, or the average cotton count, is shown on the cotton count meter, and a running record graph is drawn automatically by the recorder. The instrument is calibrated for cotton, but with minor changes may be adapted for use on other materials. The material is not touched during measurement and is not compressed or distorted in any way.

Yarn may be tested accurately at speeds up to 10 ft. per sec. Yarn, roving, and sliver from 0.08 to 150s cotton count may be measured with the same instrument.



***HIGH-SPEED TESTING** is said to be an outstanding advantage of this new electronic uniformity analyzer for yarn, roving, and sliver.*

Manchester Exhibition

(Continued from page 105)

is slow. The device moves across the warp at a constant rate, but its stopping and starting are controlled by a magazine of some six ends. When the magazine is full, the machine stops; but as soon as the operative takes an end from the magazine and draws it through the heddle, the machine will take the next end in sequence and put it in to fill the magazine again.

The magazine consists of a frame for mounting the warp, gears, and the travelling selector unit. It is equipped also with a travelling adjustable seat which provides a comfortable working position for the operator. It is made to work from the left or right according to the individual mill requirement.

Selection of the ends is made by a single finger unit from an end-and-end lease which is located by special lease bars. This finger passes the selected ends in order to the storage magazine. A white translucent screen behind the magazine clearly silhouettes the ends for the attention of the drawing-in hand, without causing eyestrain.

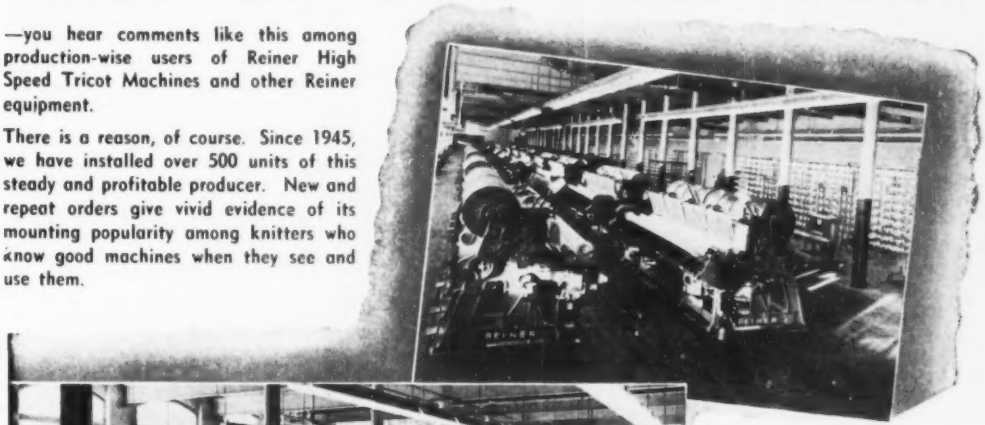
WOOLEN CARD. Changes have been made in the woolen card produced by Platt Bros. & Co. Ltd., Oldham, which make for a greater degree of efficiency and higher output. On the machine shown at the exhibition, a weigh pan fitted with an electrically operated stop motion had been incorporated. This device is said to insure a much greater degree of accuracy in the weight of material going forward and, therefore, to result in improved yarn regularity.

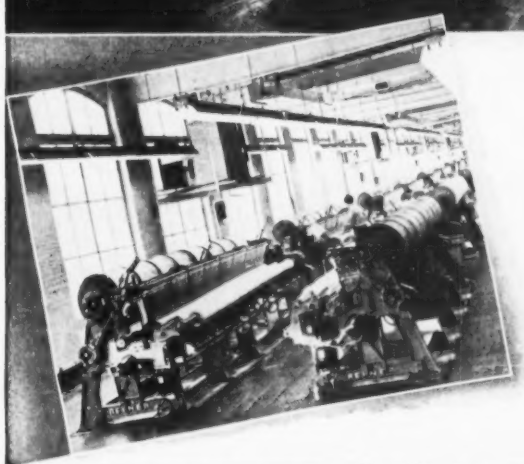
The card is fitted with a new tape condenser in which the eccentric motion has been designed to give trouble-free and indefinite service. The shaft of the motion is fitted with ball and roller bearings and is suspended in a thrust washer. Full advantage is taken of the fact that the bearings make it possible to run the condenser at higher speeds. Speeds range from 200 to 600 rpm. in steps of 25 revolutions. One

"THEY RUN LIKE CLOCK WORK"

—you hear comments like this among production-wise users of Reiner High Speed Tricot Machines and other Reiner equipment.

There is a reason, of course. Since 1945, we have installed over 500 units of this steady and profitable producer. New and repeat orders give vivid evidence of its mounting popularity among knitters who know good machines when they see and use them.





Photos courtesy
New Bedford Knitting Co.

The new Reiner High Speed Tricot Machine has a cruising speed in excess of 450 courses per minute, with a knitting width of 168 inches (or 84 inches with still higher speeds). It takes spools up to 21" warp flange diameter or of conventional size. It can be operated with either pattern wheel or a chain link drive. Widest selective pattern range of one bar or two bar tricot fabrics of rayon, nylon, silk, cotton, wool, etc., single-fibre or blended yarns. We also manufacture 3-bar machines. Gauges from 14 to 32. Automatic oil feed lines throughout.

The Reiner Warp Knit Line also includes:

a full line of preparatory equipment such as creels and warpers for all requirements, warping spools, hydraulic beam lift wagons, stop motion equipment, and auxiliary items, giving the knitter a continuous line from start to finish, all available from one source. Also Simplex Machines and Raschel Machines.

Ask for our richly illustrated catalogs, or, better still, write to us for an appointment to see this High Speed Tricot Machine in action at our showrooms in Weehawken, New Jersey.

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ROBERT REINER INC.

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10 MINUTES FROM TIMES SQUARE. Take Bus Nos. 61, 67, 167 from the Times Square Public Service Terminal at 260 West 42nd Street, New York City. Get off at Pleasant Avenue, Weehawken, New Jersey. From there turn left and walk through the underpass up to Gregory Avenue . . . TELEPHONE: UNION 7-0502, 0503, 0504, and 0505. From New York City call LONGACRE 4-2217.

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If Pins Are In Stock

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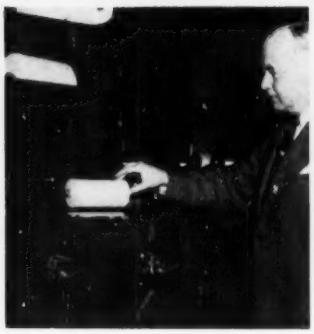


FOSTER MACHINES were on display. W. C. Chisholm, president of Foster Machine Co., here checks a cheese being run.

HIBBERT SIZING MACHINE is being examined by Harold Hibbert, left, and John L. Coon, Jr., president of Atkinson, Haserick & Co., of Boston. [For details of the slasher see TW July, '48, p. 112.]

change wheel only is used on the multi-speed drive to the eccentric motion shaft.

A pneumatic system of waste-end removal is fitted to the condenser, and the waste ends are passed directly back to the hopper feeder.

The condenser is built in three distinct sections for convenience of erection and maintenance: the tape section, the rubbing section, and the creel. Each of the rubbing leathers has three pressure rollers, two in the bottom section and one centralized above. The top roller is adjustable.

An offset drive has been applied to the surface drum which builds up the bobbins, and makes it possible to use 12-in. flanged bobbins, although the drum has only an 8-in. diameter.

HIGH-SPEED BEAMER. Completed only a short time before the exhibition opened, a high speed beamer made by the Harrison Knitting & Textile Machinery Co. Ltd., Upper Brook St., Manchester, was shown for the first time. It is fitted with an hydraulic raising, lowering, and damping mechanism. Working at speeds up to 800 yd. per min., the beamer has a very sensitive control. It is built into a steel frame of particularly strong construction to withstand shock loads from instantaneous stopping. A quick-acting electromagnetic stop motion is designed to minimize yarn travel after a break.

The hydraulic mechanism is dust-proof, oil tight, and requires a minimum of maintenance. Safety devices are incorporated to make operation foolproof. A two-speed motor coupled to a four-speed gearbox gives a choice of eight speeds.

A sensitive clutch enables the beam to creep almost imperceptibly and gives the operator complete control at speeds from 1 yd. per min. up. The yardage indicator, with electric stop motion, is of large diameter with clear figures. It can be set to any predetermined yardage and stops the machine automatically when this yardage has been attained.

The machine is fitted with an adjustable dust-excluding reed. It can be accurately positioned relative to the flanges, and the dents can be opened or closed as required.

OTHER EXHIBITS. Of the many looms at the show, one, the T-Model by the British Northrop Loom Co. Ltd., Blackburn, Lancashire, was claimed to be quite simple although fully automatic. It is a 44-in. single-shuttle bobbin-changing loom with a rotary battery for bobbins 8 in. long by 1¼ in. in diameter. The loom is equipped with a Roper automatic let-off motion, a mechanical warp stop motion, a Lacey roller-top motion, a "Midget" mechanical feeler, and an individual

BALMES HIGH-DRAFT SYSTEM is being examined at the exhibition by A. J. Gabriel, of J. G. Gabriel Spinning & Weaving Co. Ltd., near Athens, Greece.

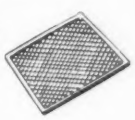
Puts an end to such humidifying troubles as:

X	persistent "slime odors"
X	slime clogging spray nozzles
X	clogged overflow drains and return lines
X	algae, slime sprays blowing over equipment

OAKITE SANITIZER No. 1 the new quaternary-ammonium germicide will help eliminate these and other humidifier troubles. Simply add ¼ to ½ pint of this powerful germicide-disinfectant to each 1,000 gal. of system water. Its potent algaecidal action keeps water clean and sweet-smelling. Solutions are non-corrosive, non-staining. For further details write for Report No. A-8558. Free, without obligation.

Descaling humidifier sprays: Try Oakite Compound No. 32, the scientifically inhibited acidic descalant, for fast and complete removal of lime scale from sprays, nozzles, tanks, return lines.

Desliming wire screens: Before replacing screens in humidifier tanks, soak them in hot solution of quick-penetrating Oakite Composition No. 22. Cuts through slime and dirt without harming underlying metal. Use its solutions, too, to circulate through lines and tanks.



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Blickman Built Stainless Steel drying cylinder . . . 60 inch diameter. Plate No. 7232

Stainless Steel drying rolls . . . high pressure steam, built to A S M E code specifications.

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For protecting the fabrics you process, Blickman Built cylinders are being recommended and used by an increasing number of manufacturers of textile finishing machinery. The reason is simple. Blickman specializes in the fabrication of stainless steel cylinders to give you a more accurate, more dependable, safer cylinder. Our special plant equipment and controlled welding procedures assure rugged construction for long service. Blickman Built cylinders are available through many textile machine builders or through us.

- **DIMENSIONS**—Built in any diameters or lengths to meet your requirements.
- **FINISH**—Polished on our own automatic machines to as high as number 6 finish, if you require it.
- **CODE REQUIREMENTS**—Cylinders built to conform to local and ASME national board codes.
- **INSPECTION**—Tested at twice working pressure . . . thoroughly checked for leaks.
- **CONSTRUCTION**—Mechanically sized for accuracy and true running. Furnished with or without heads.
- **TYPES**—Dry cans, presetting cylinders, cooling cylinders, etc.

Specify Blickman Built cylinders through your textile machine builder . . . or send your inquiry direct to us. Quotations furnished promptly.

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Manufacturers of stainless steel textile equipment, dye boxes, linings, cylinders, dry cans, rolls, hoods, tanks.

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FACTORING textile mills, selling agents, converters and jobbers for almost a century has given us an understanding viewpoint in assuming credit risks and a wide experience in providing prompt financial assistance.

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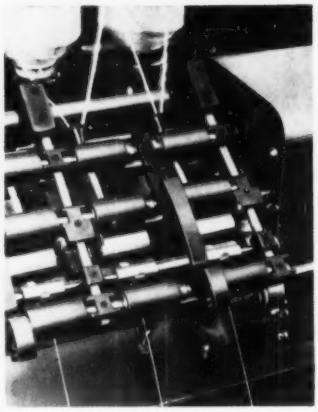

***DRAFTS UP TO 90** are possible with the Balmes system. Self-weighted control roller can be seen just back of the front rolls.*

electric drive with reversible motion.

As an alternative to more costly automatic silk looms, Butterworth & Dickinson Ltd., Globe Works, Burnley, Lancashire, showed a 50-in. reed-space rayon loom. The loom runs filling bobbings 9 in. by 1¼ in. at 140 ppm. It has a 2x1 filling mixing motion.

A loom for weaving chenille pile yarn was displayed by Fielding & Son (Werneth) Ltd., Roscoe St., Oldham, Lancashire. It uses two cotton warps, one of coarse and one of fine count yarn, which interweave on the leno principle with colored woolen filling supplied on cones from a magazine creel at the side of the loom.

The Stutz automatic filling-stripping machine of Stutz & Cie., Switzerland, was shown by Muschamp Taylor Ltd., Manchester. Muschamp Taylor also displayed its line of winders [T.W., Aug. '49, p. 149 and Sept. '49, p. 168] as well as the Foster Machine Co. machines for which it is agent. The Stutz machine is designed to clean tubes or bobbins of almost any material at a rate of 5,000 to 6,000 per hour.

A synthetic-rubber roll covering, the Vulcascot, shown by Vulcascot Ltd., 89 Alley Rd., London, is claimed to be oil- and heat-resisting and able to absorb moisture. The covering is designed for mills without humidity control in which moisture on the rolls might prove troublesome.

A hydraulic check for shuttles was shown by Mellor, Bromley & Co. Ltd., Leicester. The buffer can be fitted on the end of the shuttle box to check the shuttle at the end of its flight, or underneath the shuttle-box for cushioning the picker stick. Advantages claimed for it are: precision stopping of shuttle on every pick, shuttle retarding without jerking or rebounding, minimum upkeep, inter-changeability of parts, automatic compensation of picking strength, and higher loom efficiencies.

USEFUL ACCESSORIES *for the Textile Mill*

New Absolute Pressure Gage

A mechanical-type recording absolute pressure gage said to operate on a new principle has been developed by The Bristol Co., Waterbury 91, Conn. The gage has a pressure-sealed lever arm so constructed that it is frictionless, entirely free from lost motion, and free of turning moments due to changes in differential pressure across it. This design makes possible the recording of extremely low absolute pressure ranges. The instrument is rugged in construction and can be used under ordinary plant conditions. It gives an accurate record of vacuum in terms of absolute pressure, inherently correct for barometric variations.

Unique Microscope Attachment

A microscope attachment that provides three types of reflected illumination—bright field, dark field, and polarized—has been developed by Bausch & Lomb Optical Co., Rochester, N. Y. This attachment, known as the Tri-vert Illuminator, can be readily attached to the body tube of any standard non-objective microscope for the examination of opaque or semi-opaque specimens. The changeover from dark-field to bright-field illumination is instantaneous and is controlled by a lever. A Polaroid polarizer and cap analyzer provide for polarized-light examinations. The attachment is expected by the manufacturer to have wide application in the textile field.

Fluid-Motor Operator for Valves

A simplified fluid-motor operator for gate valves has been developed by Crane Co., Chicago, Ill. The new design makes possible extensive use of motor-operated valves, since the actuating unit can be easily adapted to standard valves in stock or to valves

WESCO STOPMOTIONS

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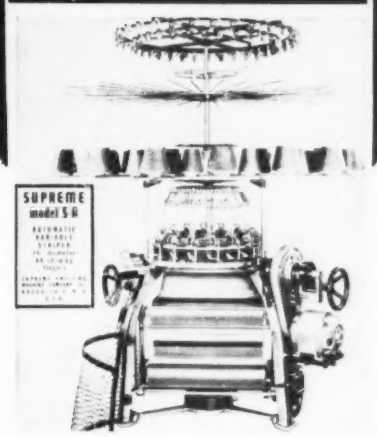
OUTERWEAR • UNDERWEAR • HOSIERY

STANDARD EQUIPMENT

SUPREME MACHINES



SUPREME

WESCO electric stop motions definitely cut knitting overhead by eliminating unnecessary press-offs — knitting breakdowns — broken needles and wasted yarn.

WESCO stop motions are instantly automatic, precision made and trouble free. Installation on any type of machine is simple and easily made.

WESCO stop motions are built in any series from 1 to 96 ends including Retractible Electric Needle Protectors—"Safety Controllers" — Hole and Press-off Detectors — Sentinel Press-off Detectors. Specify WESCO when you buy new knitting machines and you buy the finest.

LOOK FOR WESCO

on all these knitting machines:

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STOP-MOTION DEVICES CORP.

1471–77 Fulton St. **Brooklyn 16, N. Y.**

One of a series of knitting machine builders. Others to follow.

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BALLBEARING TOP ROLLS

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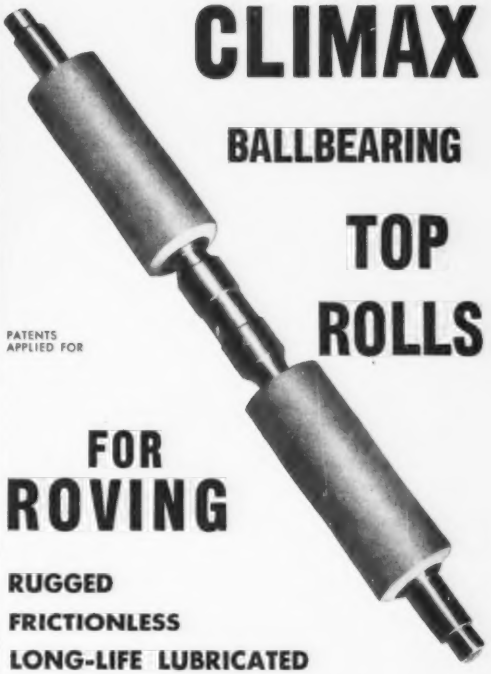

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Our customers report these definite results:

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- Evener spinning yarns.
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- Tremendously reduced top roll cleaning.
- Greatly reduced top roll picking.
- Complete elimination of oiling.
- Complete elimination of oil on roving, cots and clearers.
- Long, maintenance-free life.

THEY PAY FOR THEMSELVES OVER AND OVER IN DIRECT DOLLAR SAVINGS AND YIELD EXTRA DIVIDENDS IN QUALITY.

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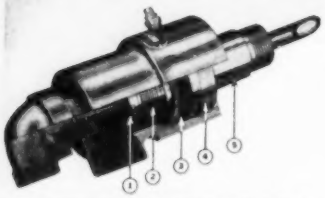

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The most efficient and economical connection to revolving shafts or drums, for heating or cooling purposes.

Available from Stock in Pipe Sizes from ½" to 3" Plain & Syphon Types

Standard ALL-PURPOSE ROTARY UNIONS for such applications as Steam up to 150 P.S.I. Hot Oil to 550°F, Coolants, Air, Gases, Water, Brine, Vacuum, Alternate Mixtures, Speeds up to 1000 R.P.M. and others.

FOR HIGHER SPEEDS, PRESSURE TEMPERATURE AND DOWTHERM.

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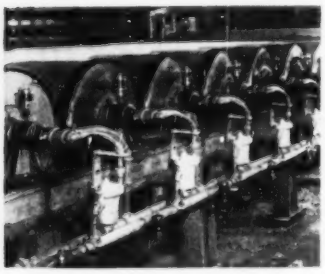

HERE IS WHY MACHINERY MFRS and TEXTILE MILLS

are replacing stuffing boxes and packing joints with ROTARY UNIONS. This photo shows a battery of ROTARY UNIONS installed on a Can Dryer. Notice the neat appearance, the absence of complicated piping and brackets. ROTARY UNIONS are favored by Engineers and Maintenance Men because of their dependability, low friction drag, easy installation, economy and long trouble-free operation.

WRITE FOR CATALOGUE explaining advantages of using ROTARY UNIONS in your plant.

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already installed. This easy adaptation has previously been almost impossible. Motor-operated valves have usually been made up on special order to the requirements of the installation. The valve can be operated by water, oil, compressed air, or gas at pressures from 40 to 300 psi. The operating mechanism delivers a high starting torque and is adjusted to deliver a greater torque for unseating the valve than for seating it.

Improved Illuminated Magnifier

A new and improved Flash-O-Lens illuminated magnifier, with a knurled pinion for adjusting the 20- or 40-power tube to the user's exact visual needs, has been announced by E. W. Pike & Co., Elizabeth, N. J. A rubber roller on the shaft of the knurled adjusting pinion, which is mounted on the housing of the instrument, bears against the vertical tube which houses the lenses. By turning the knurled pinion, the tube and lenses can be raised or lowered to bring the object being examined into sharp focus. It is expected that this new model will be useful for examining textiles, chemicals, finishes, and any product or raw material which requires accurate inspection through illuminated magnification.

Laboratory Drying Oven

A new forced-draft "Isotemp" oven for general laboratory use has been developed by Fisher Scientific Co., 717 Forbes St., Pittsburgh, Pa. The oven is said to perform drying operations in one-half to one-third the time required with a conventional-type oven. The design of the oven embodies specially selected construction materials and operating advantages said to produce uniform temperature throughout the aluminum heating chamber with a minimum consumption of current. A motor-fan unit beneath the heating chamber and an ingenious arrangements of ducts and louvers conduct hot, dry air to the heating chamber, where the air moves gently against and completely around the sample.

New Pipe-Threading Machine

Faster threading and minimum handling of stock are said to be possible with the new Oster No. 702 Wiley pipe-threading machine which has been developed by The Oster Mfg. Co., Cleveland 3, Ohio. Speed selector switch and push-button controls for standard voltages are among the time-saving features of this production threading machine. Other features are worm-gear drive with ball-bearing-mounted spindle; Spinfast wrenchless front chuck with easy-to-grip chuck wheel; non-locking rear centering chuck; quick-opening, adjustable dieheads with segmental dies; length gage for quick setting to size for threading; and a calibrated gage for setting to desired length of pipe for cutting off.

Magnetic Stirring Device

An improved and more powerful stirring device has been developed by Fisher Scientific Co., 717 Forbes St., Pittsburgh 19, Pa. The device operates on the same principle as earlier models—producing agitation by means of induced magnetic force—but will stir liquids as viscous as S.A.E. 90 at room temperature. The new "Mag-Mix" is comprised of a heavy-duty motor with permanent Alnico magnet attached to its shaft. Stirring bars placed in containers and on a housing above revolving magnet can be turned at any speed desired by adjusting an external rheostat. Stirring action can be effected in flat or round-bottomed flasks, in non-magnetic metal containers, and through heating mantles.

Adjustable Speed Drive

Mot-o-Trol packaged adjustable-speed drive, employing electronic precision to provide a wide, stepless range of speed control for d.c. motors from a.c. sources, has been announced by Westinghouse Electric Corp., Box 868, Pittsburgh 30, Pa. Mot-o-Trol is designed to start motors, to bring them up to a pre-set speed smoothly and rapidly, to permit changes of speed at any time, to apply dynamic braking for stopping and to reverse motors. A feature of the Mot-o-Trol drive is the sub-assembly construction of the unit. Complete subassemblies can be removed for easy maintenance.

Manual Starter for Overload Protection

The new TT manual starter which provides overload protection for small motors up to 1 hp. has been announced by Trumbull Electric Mfg. Co., Plainville, Conn. Main feature of the new starter is the heater which is a thermostatic tumbler matched with the current ratings of the motor with which it is used. This tumbler switch is intended to interrupt the circuit and to prevent damage to the motor. These are recommended by the makers for all types of small-motor drives such as air-conditioning, sewing machines, pumps, small lathes, and drill presses. The switch will withstand a heavy starting load or a brief overload, but will trip before damage can occur, thus preventing unnecessary interruption while providing adequate protection against burning out motor.

Macbeth Color Matching Skylights

Don't let dark days interfere with your color matching. Macbeth Skylights deliver accurate, scientifically developed north sky daylight 24 hours a day, regardless of weather. Let Macbeth engineers help you solve your color matching problems.

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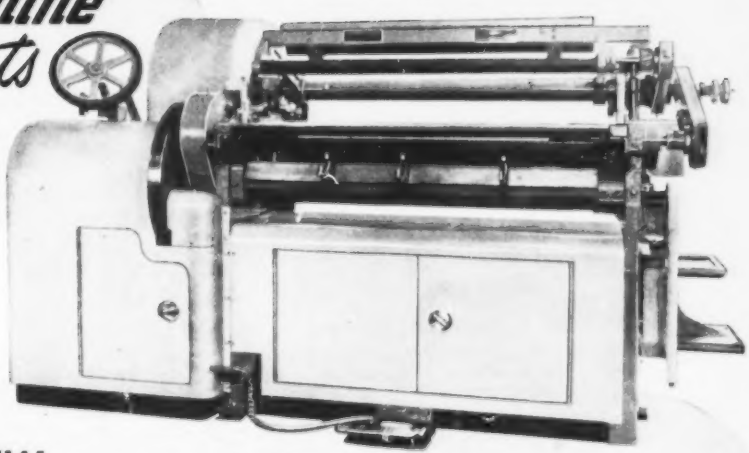
Photo courtesy Alex. Smith & Son's Carpet Co., New York

Camachine Presents

THE NEW

40-1DF

For bandage rolls and other textiles packaged in clean-cut small rolls



AN ALL NEW HIGH-SPEED SLITTER-REWINDER

. . . especially designed for fast, low-cost production of small rolls! Sensational new features of the Camachine 40-1DF include: (1) *the motor-driven riding-roll lift;* and (2) *the automatic stop* for accurate measurement of any desired length of strip, in feet or yards. It will pay you to investigate this new profit making machine. Write: CAMERON MACHINE COMPANY, 61 POPLAR STREET, BROOKLYN 2, N. Y.

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RESORTS-INDUSTRY-AGRICULTURE

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FLORIDA

DYES & CHEMICALS

Anti-Jelling Agent Improves Starch Size

A new anti-jelling agent for starch solutions, Flovis, has been announced by Glyco Products Co. Inc., 26 Court St., Brooklyn 2, N. Y. Use of the new agent is said to decrease viscosity and to delay jelling of starch pastes which are used as adhesives, sizing, thickeners, and for other purposes. Only a small amount (0.1%) of the anti-jelling agent is used.

Use of Flovis in starch paste is said to give creamier and smoother starch products which are easier to use and handle. No reduction in solids content is said to be necessary to obtain better flow.

In packaging starch adhesives, the greater fluidity induced by use of Flovis is said to enable faster packing and labor saving.

To request further information, please use the card on page C of the Reader-Service dept.; refer to D-31.

Anti-Slip Finish Improves Hand of Fabric

A new anti-slip finishing material in the form of a viscous oil, said to give excellent anti-slip properties and to impart a very desirable hand to fabrics, has been developed by Hart Products Corp., 1440 Broadway, New York, N. Y. The new finish, called Hartex Fiberlock, is claimed to assure a thick, full-bodied, weighted hand without stiffness or harshness, to all types of fabric. The product is used to give maximum anti-slip properties to acetate, rayon, and nylon.

To request further information, please use the card on page C of the Reader-Service dept.; refer to D-30.

Two New Dyes Announced by Du Pont

Two new dyes, Acetamine Rubine 3B and Pontamine Diazo Bordeaux RLM, have been announced by E. I. du Pont de Nemours & Co. Inc., Organic Chemicals Dept., Dyestuffs Div., Wilmington, Del.

Pontamine Diazo Bordeaux RLM is a developed color which produces bright bordeaux shades on both viscose-process rayon and cotton. The dye is particularly suitable for white discharge work on these two fibers. It possesses very good resistance to perspiration, salt water, dry crocking, dry cleaning, as well as good fastness to washing in cold water. The wash fastness on viscose-process rayon is slightly superior to that on cotton. Pontamine Diazo Bordeaux RLM is recommended by the company as the base for maroon, burgundy, wine, and similar ground shades for discharge patterns on dress goods and other materials where good fastness to wet processing is important. The dye is also suitable for acetate-white effects.

The new dye is said to have good solubility, to penetrate well, to dye level, and to be applicable in the usual types of equipment. Diazotization and development should be carried out in the absence of strong light. The dye is normally coupled with beta naphthol.

Acetamine Rubine 3B is especially recommended by the manufacturer for the production of bluish rubine shades that exhibit good brightness on either acetate or nylon. The blue shade of this direct-dyeing acetate color recommends its use as the base for a wide range of light-fast wines, clarets, bordeaux, and maroons. The dye possesses very good fastness to both dry and wet crocking, hot moist pressing, and has good resistance to washing at 105° F., dry cleaning, and sublimation. The new dye can be discharged to a slightly tinted white and produces speck-free prints by the usual printing methods. It is suitable for a variety of materials, such as dress goods, draperies, linings, and many decorative fabrics that require good fastness to washing and dry cleaning.

Acetamine Rubine 3B is easily dispersed, builds up slowly on the material, and absorbs well at high temperatures, according to the manufacturer. Effect threads, such as silk and wool, are dyed; while cotton and rayon are considerably stained.

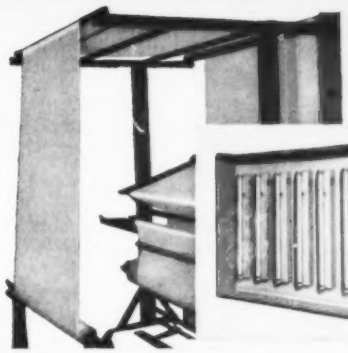
To request further information, please use the card on page C of the Reader-Service dept.; refer to D-29.

Liquid Detergent Has Low-Temperature Solubility

A new liquid detergent, Ultrawet 60L, has been developed by Atlantic Refining Co., Chemical Products Section, 260 S. Broad St., Philadelphia, Pa.

The amber-colored liquid is an organic alkyl-aryl sulphonate which is 60% active and 40% water. Ultrawet

"Standard" FLUORESCENT LIGHTING FIXTURES FOR CLOTH INSPECTING MACHINES



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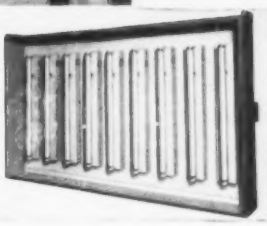
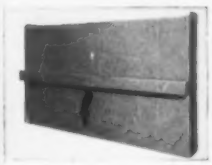
ELIMINATES EYESTRAIN
INCREASES EFFICIENCY
STEPS UP PRODUCTION





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60L has unique low-temperature-solubility characteristics, and is said to remain crystal clear at temperatures below 20° F. This feature, coupled with high-foaming characteristics, excellent detergency, and strong wetting properties, is said to make the new product useful in various textile processes.

Ultrawet 60L is available in tank cars, tank truck, and specially lined 55-gal. drums.

To request further information, please use the card on page C of the Reader-Service dept.; refer to D-28.

Five New Dyestuffs Announced by General

Five new dyestuffs for various types of fibers have been announced by General Dyestuff Corp., 435 Hudson St., New York 14, N. Y. The names and principal properties of these dyestuffs are listed below:

Celliton Fast Rubine 3BA for printing—a dispersed acetate dyestuff especially standardized in its physical properties for printing acetate. The dyestuff is said to produce bright shades of bordeaux, and to fix easily under most steaming conditions. The fastness to light is said to be very good, the sublimation good; and, like other acetate dyes, its wet fastness is moderate.

Celliton Fast Yellow 7GA Conc.—a homogeneous dispersed dyestuff for the direct dyeing of acetate rayon and nylon. This dyestuff is said to be the greenest and brightest of the Celliton yellows produced by General Dyestuff Corp., and to possess very good fastness to light.

The other fastness properties of the dye in general are said to be satisfactory, especially its resistance to atmospheric gas fading. The dyeing properties of this yellow are said to be very good throughout a wide range of temperatures for both acetate rayon and nylon.

The dyestuff is also said to be outstanding in its usefulness for the production of a wide range of colors in either delicate tints or deep shades, from greenish yellow through green, to greenish blue. Alone, the dyestuff yields delicate chartreuse or lime tints that are suitable for summer suitings, blouse, and evening-dress materials. In combination, especially with Celliton Fast Blue-Green BA, the dye produces Irish and primitive greens with a brightness that cannot be attained with any other combination, according to the manufacturer. These bright shades are, at the same time, so resistant to light that they can be recommended for upholstery and drapery materials. The penetrative power of this yellow and of the green combinations make it suitable for closely woven materials containing yarns of high twist. The dyestuff leaves vegetable fibers virtually clear and thus permits a sharp, contrasting, irridescent effect in a one-bath process on piece goods containing effect threads or fibers, such as those in bengalines, alpacas, romaines, and shantungs. The dyestuff is not recommended for printing on account of excessive sublimation.

Celliton Orange 3R—a homogeneous dispersed dyestuff for direct dyeing and printing of acetate rayon and nylon. The dyestuff produces a fairly bright reddish-orange shade of good tinctorial value on acetate, a feature which makes it useful not only for bright oranges, but also as an economical base for browns and tans, and as a dulling component for olives. The hue on nylon is appreciably redder than on acetate. The dyestuff is well suited for printing and is easily dischargeable.

Celliton Orange 3R is said to draw onto the fiber well at low and at high temperatures in dyeing. It is well adapted for use on jigs when flat goods are to be dyed evenly from selvage to selvage and end to end. The dyestuff has high penetrative powers and is particularly useful in dyeing crepes. The good to very good fastness to light of the dyestuff, in conjunction with adequate wet fastness and fairly good fastness to atmospheric fading without treatment, makes it suitable wherever acetate fabrics are employed.

Rapidogen Golden Yellow IFG—a stabilized azoic composition in powder form, employed for printing bright, golden-yellow shades on cotton, linen, and rayon fabrics. Full shades exhibit very good to excellent fastness to light, good to very good fastness to washing, and good fastness to chlorine, according to the manufacturer.

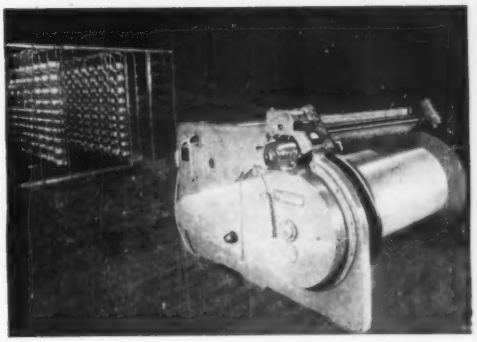
Sulpho Rhodamine B Extra—a non-dusting acid dyestuff giving a brilliant, fluorescent, bluish-pink shade similar to its basic-dye counterpart, Rhodamine B Extra F. Because it is a level-dyeing acid dyestuff, the Sulpho Rhodamine gives much better fastness and penetration than the basic dye, and is also considerably easier to apply in dyeing.

The new dyestuff is used for printing and dyeing wool and silk where either exceptional brilliance of tone or fluorescence is more important than good light fastness.

For Other New Products

Several other important new dyes, chemicals, and processes were shown at the exhibit at the recent AATCC

Meeting the Test of Actual Mill Operation



THE NEW SIPP-EASTWOOD ELECTRICALLY CONTROLLED

HIGH SPEED WARPER

—can run at speeds of 150 to 900 yards per minute in mills where only the most efficient equipment is tolerated. It builds beams up to 36 inches in diameter, 54¼ inches or wider between heads, with practically no vibration because of smoothly applied power and extra heavy construction.

FEATURES THAT ARE OUTSTANDING:

1. Electrical control of warp speed.
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5. Motor-mounted magnetic brakes.
6. Magnetically operated hydraulic brakes for auxiliary braking of beam, measuring roll and pressure roll, and to hold the beam at a standstill.
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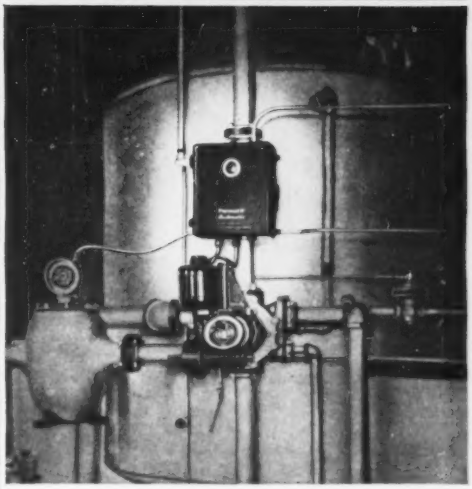

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PERMUTIT INSURES QUALITY! Permutit quality-controlled process water safeguards fabric quality! Saves you money by guarding against spotty, off-color dye lots, or chemical reactions that ruin the finish of your fabrics.

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Permutit's leadership, high quality, and technical know-how are reflected in this most modern and economical of water softeners! Your present softener can be modernized *easily*. Write for full information to The Permutit Company, Dept. TW-12, 330 West 42nd Street, New York 18, N. Y., or to The Permutit Company of Canada, Ltd., Montreal.

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ANGUS

Utmost care is taken to obtain only the choicest jute fiber for Angus burlap. It is then processed to rigid specifications to assure the extra strength and finer appearance for which Angus is famous.

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convention in Atlantic City. For details, see the report on this convention among the feature articles in this issue.

Book Reviews

Second Edition of Cotton Handbook

AMERICAN COTTON HANDBOOK, Second Revised Edition, by Gilbert R. Merrill, Alfred R. Macormac, and Herbert R. Mauersberger; Textile Book Publishers, Inc., 303 Fifth Ave., New York 16; cloth, 943 pages, $9.50 in U. S. and Canada; $10.50 elsewhere.

This second edition of the widely known and highly respected handbook on all phases of cotton growing, manufacturing, wet processing, and research, includes a thorough revision of the first edition (1941) and new sections on postwar processing techniques and research.

Its 21 chapters include over 400 illustrations, photomicrographs, diagrams, tables, and flow sheets. Indexes include cotton-dye trade names, a bibliography of American and English cotton-textile books and pamphlets, trade associations, magazines, films, and an enlarged 43-page subject index.

Ninety-two pages of subscribing manufacturers' and suppliers' products and services, confined to the front and back sections of the book, complete the picture of U. S. cotton textiles in 1949.

Wool Association Annual Report

BULLETIN OF THE NATIONAL ASSOCIATION OF WOOL MANUFACTURERS FOR 1948, Vol. 78. (including statistics on the woolen branch of the textile industry); National Assn. of Wool Mfrs., 386 Fourth Ave., New York; cloth, 479 pages, $10.

Those who have had anything to do with wool or woolen textiles need no introduction to this annual report of the N.A.W.M.

The first 36 pages outline the organization of the association in detail; while the secretary's report on the annual meeting and the statement on 1948 production, wages, and relations with government and tariffs take up 46 pages. Part II is given over to woolen-textile statistics: fiber consumption, production and stocks, prices, imports and exports, machinery activity and location, mills, labor, products, and financial and operating statistics. Part III gives all necessary details on the organization's stand on the Reciprocal Trade Agreements and International Trade Organization, and lists the changes in tariff duties since 1930.

As always, this report is an excellent historical record of what happened in the wool field during the previous year.

Two New Studies On Textile Testing

ANALYTICAL METHODS FOR A TEXTILE LABORATORY, edited by Percival Theel; American Assn. of Textile Chemists & Colorists, Lowell Textile Institute, Lowell, Mass.; $6.

First in a series of monographs in the process of publication, this work on laboratory analytical methods takes up general rules, solutions, reagents, sampling, chemical analyses, finish determinations, dyestuff and fiber identification, useful tables and calculations, and an index.

TEXTILE TESTING, by James Lomax; Longmans, Green & Co., 55 Fifth Avenue, New York; cloth, 221 pages, $5.25.

This second edition of a 1937 British textbook has been expanded considerably to take in the testing of many of the postwar developments in fibers and machinery. Fiber-identification, weighing, conditioning, measurement, temperature, fastness, quality, and general chemical tests and methods are included. Photomicrographs, useful tables, and an index add to the completeness of the work as a basic reference.

Revised Handbook for Industrial Chemists

HANDBOOK OF CHEMISTRY, Seventh Edition, by N. A. Lange; Handbook Publishers, Inc., Sandusky, Ohio; fabricoid, 1934 pages, $7.

The sixth edition of this well-known chemical reference book was published over three years ago. This new edition includes many changes in numerical values, scattered throughout the various tables, in an effort to maintain the work's standard of reliability and accuracy. New and essential sections of chemical information have been added at the expense of some eliminated mathematical data. Every serious textile chemist should have access to the background material offered in this work.

Knitting-Mill President Recalls Fond Memories

READY, WILLIG, AND ABEL, by Walter Artzt; World Publishing Co., 2231 West 110th St., Cleveland 2, Ohio; cloth, 253 pages, $2.95.

Mr. Artzt is the president of Lisle Mills, Inc., Allentown, Pa. With a light touch, he lives over humorous incidents that took place during his Americanization as a young fellow fresh from Dobromil, Poland.

A NEW

SPRAY-APPLICATION TECHNIQUE

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MINOTINTS

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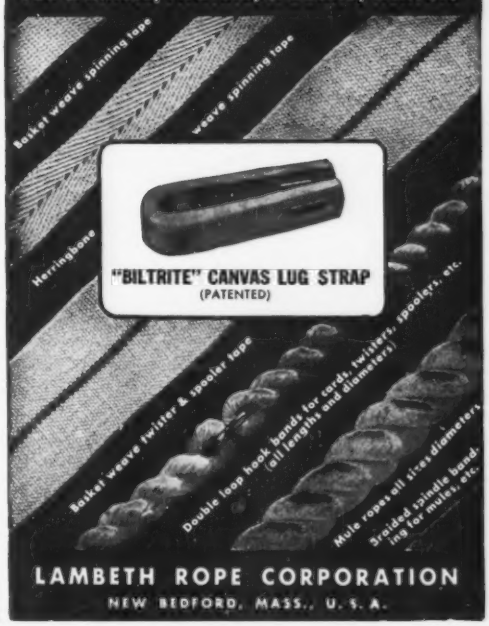
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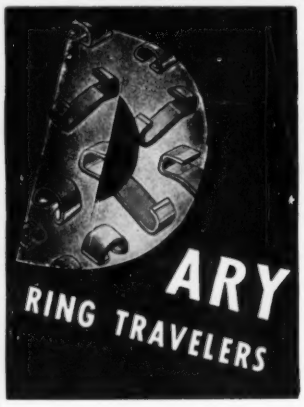

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James H. Carver, P. O. Box 22, Rutherfordton, N. C.

Crawford Rhymer, P. O. Box 2261 Greenville, S.C.

News of the month

Dynel Makes Its Debut. An acrylonitrile-vinyl-chloride staple called Dynel, the staple form of the former Vinyon N, has been announced by Carbide & Carbon Chemicals Corp. Among its advantages are high resilience, loft, warmth, strength, fire-resistance, moth-proofness, fungus-inertness, dimensional stability, and ability to dry rapidly. It can be dyed readily on conventional machinery and can be handled easily on cotton, woolen, worsted, and spun-silk systems. Dynel is non-felting, is light in weight, and launders and dry-cleans well without shrinkage. Dynel fabrics can be laundered in high concentration of detergents and soaps without deterioration. They can be steam-pressed but not hot-ironed. Bright colors with good fastness to light, washing, and crocking have been attained with a large number of acid-type dyestuffs. Acetate colors, although inferior to acid dyestuffs in light fastness, can be employed to give good washfastness and crockfastness. At present, Dynel is available only in small quantities for developmental purposes.

Cotton-Picker Improvements. A recently developed fringe roll, covered with coarse wire and placed below the bottom feed roll or evener pedal on a cotton picker, increases the cleaning action of the beater and assists in the removal of small seed particles, according to Robert Curley, Saco-Lowell Shops, at a recent Cotton Carders' meeting in Boston. He recommended metal disks on the end of beater shafts to prevent currents of air on beater ends and to improve the direction of cotton onto the picker screens. Correct setting of cut-off plates on beater sections can be obtained on older pickers by the addition of adjustable cut-off plates, which eliminate the necessity of compromising between the correct feed-roll settings and the correct cut-off-plate settings.

Hosiery-Yarn Tension. Differences in yarn tension on hosiery-knitting ma-

TEXTILE CALENDAR

Textile Research Institute, annual meeting, Waldorf-Astoria Hotel, New York, Dec. 1 and 2, 1949. Open House, Princeton, N. J., Dec. 3, 1949.

Cotton Insect Control Conference, Tutwiler Hotel, Birmingham, Ala., Dec. 19 and 20, 1949.

Plant Maintenance Show, Auditorium, Cleveland, Ohio, Jan. 16 to 19, 1950.

Southwest Air-Conditioning Exposition, State Fair Park, Dallas, Texas, Jan. 23 to 27, 1950.

National Cotton Council, annual meeting, Peabody Hotel, Memphis, Tenn., Jan. 23 to 25, 1950.

Carpet Institute, Carpet Fashion Opening, New York, April 17 to 27, 1950.

National Packaging Exposition, Navy Pier, Chicago, Ill., April 24 to 27, 1950.

Knitting & Allied Crafts Exposition, sponsored by Underwear Institute and National Knitted Outerwear Assn., 71st Regiment Armory, New York, April 24 to 28, 1950.

National Assn. of Hosiery Mfrs., annual meeting, Claridge Hotel, Atlantic City, N. J., May 1, 1950.

American Textile Machinery Exhibition (and Allied Industries) sponsored by National Association of Textile Machinery Manufacturers, Atlantic City Auditorium, Atlantic City, N. J., May 8 to 12, 1950.

British Industries Fair, Earls Court, London, England, May 8 to 19, 1950.

Cotton Manufacturers Assn. of South Carolina, annual meeting, Fort Sumter Hotel, Charleston, S. C., May 11 to 13, 1950.

National Materials Handling Exposition, International Amphitheater, Chicago, Ill., June 12 to 16, 1950.

First U. S. International Trade Show; Coliseum, International Amphitheater, and Navy Pier; Chicago, Ill.; Aug. 7 to 19, 1950.

Southern Textile Exposition, Textile Hall, Greenville, S. C., Oct. 2 to 7, 1950.

Second International Silk Congress, New York, Oct. 16 to 21, 1950.

American Association of Textile Chemists & Colorists, annual convention, Wentworth-by-the-Sea, Portsmouth, N. H., Sept. 28 to 30, 1950.

THE "HEART" OF THE NEW HEIM *Unibal* SWEEPSTICK

Instead of an oversized stud hole which elongates during operation, the new HEIM Sweepstick has a Spherical Bearing consisting of an SAE 52100 chrome steel ball bored to fit the stud, and oscillating in bronze bearing inserts.

Any misalignment is compensated for by this unusual spherical bearing. Shock is absorbed in both directions of the stroke, and a softer and smother pick action results. Production interruptions due to sweepstick failures are cut to a minimum. You can count on longer life and improved action with this durable HEIM Sweepstick.

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Trucks

Made any size or style wanted. Center and end wheels. Water proofed and chemically resistant finish.

Self-oiling and no grease can drop on the floor. Used for all kinds of fine yarns, wet or dry.

Bottoms finished 1⅜". Sides and ends finished 1¼", 1½", 1" or ⅜", whichever desired. Made from maple, poplar, cypress or fir lumber.

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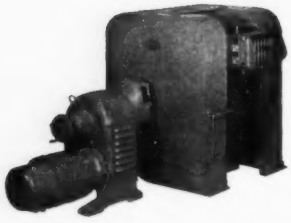

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The No. 12 Staple Cutter cuts any fiber in rove, sliver or continuous filament into uniform lengths. Easy, quick changes in length can be made by a simple adjustment.

Other machines for cutting wool rags and garments into small pieces; for cutting hard-wound wool strippings and string waste into useable fiber.

If you do cutting of any kind, a Taylor-Stiles machine offers efficiency plus top performance under all conditions of use.

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chines can now be determined and corrected on a laboratory scale through the use of an electronic device developed in England. Through visual indication of the fluctuations in yarn tension, the device will enable machine operators to keep tensions constant through manual adjustments. Production of the device is still limited, it is reported by Dr. David Starkie, director of the British Hosiery Research Assn.

Nylon in Resist Dyeing. Bright nylon yarn, either undyed or dyed with acid or direct colors, has been successfully resisted for use as an effect thread in piece-dyed woolen and worsted fabrics, according to the Du Pont Co. Sour dyeing acid and chrome and direct colors generally stain the fabrics less than neutral dyeing types. Good whites are not produced when the material is cross-dyed with a heavy chrome navy or black. The tannic-acid process has been recently improved by substantially eliminating dissolved iron from the treating liquor, and by shortening considerably the time of treatment with tannic acid, tartar emetic, and tin crystals.

Resin-Treated Blanket. The Lanaset resin process, a melamine treatment that gets under the scale structure of the wool fiber and smooths it without altering its weight, hand, or thermal characteristics, has been applied in the piece to wool blankets for the first time by the Beacon Mfg. Co. in collaboration with American Cyanamid Co. From an expected area shrinkage, after washing, of up to 32%, the treated blankets when washed shrink less than 5%. Treatment is applied as a final finishing operation in the open width, after which the piece is dried, dolly washed, dried, and napped. No chlorination or high-temperature curing is used in the process. Warmth is even increased in some cases, according to U.S. Testing Co. results.

New Nylon Blend. A 9- to 9½-oz. fabric, combining 20% nylon with 80% worsted and mohair—which gives a lightweight fabric of smooth hand; abrasion-resistance; and a cool, porous weave—has been perfected by Bachmann Uxbridge Worsted Corp. to be used in tropical-worsted fabrics for men's wear in moderate-price field.

Versatile Fire Extinguisher. An automatic carbon-dioxide fire-extinguishing system on a large rubber-impregnating machine used to manufacture nylon tire fabric was recently installed by Firestone Tire & Rubber Co., Akron, Ohio. The installation was designed by Walter Kidde & Co., Inc., Belleville, N. J., and consists of 20 Multijet discharge nozzles at various hazard points, connected by rigid piping to a manifold of four 50-lb. cylinders of liquid carbon dioxide, stored under pressure. Two heat actuators are connected to the storage cylinders. In case of fire, the nylon-impregnating machine, moving 60-in. wide nylon fabric 10 ft. per min. as it applies rubber cement containing highly flammable solvent, is engulfed in a blanket of inert carbon dioxide gas which smothers the fire.

Cotton-Picking Tests. Comparative studies of spacing of cotton plants in the field and of efficiency of machine picking of cotton as against hand picking have shown the University of California Agricultural Experiment Station that: (1) There is really no great difference in yield no matter how the plants are spaced in the field. There was no significant difference in yield, whether the plants were planted 18,000 to the acre, or 64,000 to the acre. This conclusion means that yield is not improved by thinning or chop-

Plant-Maintenance Show To Be Held in January

A 4-day plant-maintenance show will be held January 16 through 19, 1950 at the Auditorium, Cleveland, Ohio. The show is sponsored by the American Society of Mechanical Engineers and the Society for Advancement of Management. The show will have exhibits of machinery, equipment, and supplies for the maintenance of plants and machinery.

A conference to be held concurrently with the plant-maintenance show will feature an exhaustive discussion of plant-maintenance problems by a group of 21 experts. Topics for the 4-day conference include maintenance-management principles; maintenance costs; light equipment; upkeep of motors, controls, distribution equipment, floors, walls, and roofs; use of electrical instruments in maintenance; relationship of color and light to production; sanitation; lubrication; use of service equipment; and personnel safety.

Admission to both the conference and the exposition will be without charge. Advance registration card may be obtained from Clapp & Poliak, Inc., 341 Madison Ave., New York 17, N. Y.

Accurate Machine Control starts with an accurate transmission

To solve your speed-control problems

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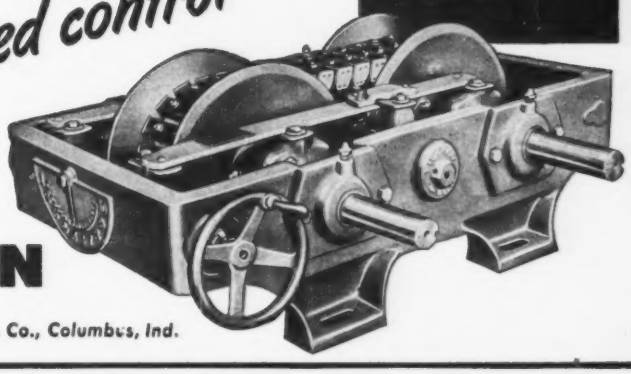

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Lace spindle tapes 10 times faster with Clipper No. 25 Spindle Tape Hooks. Tapes can be prepared in advance so frame is shut down only long enough to place new tape on the pulleys and join ends with connecting pin. Tapes run true—last longer—run smoother—require less tension—VIBRATION IS ELIMINATED

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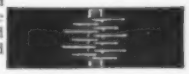
Lace condenser tapes with Clipper No. 25 Condenser Tape Hooks. Clipper laced tapes, prepared in advance, can be installed in a fraction of the time required for endless tapes. Tape may be purchased in the roll at considerable saving.



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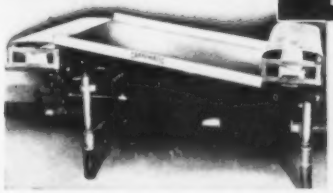

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ping. (2) The relative efficiency of the mechanical picker was 2% under hand picking. The mechanical picker gathered in an average of 95% of the cotton in the fields. The machine encountered no difficulty at all where yield was approximately three bales to the acre, where fields were free from weeds, and where plants were upright and branches not tangled across rows. Six common strains of San Joaquin Valley Acala cotton were used in the tests.

CCC Supports Cotton Growers. Over $600,000,000 was used by the Commodity Credit Corp. during the last fiscal year as price support for upland cotton, to the amount of 3,818,657 bales, Ralph S. Trigg, president of the governmental agency, made known recently. Total loans for supports on four agricultural commodities (cotton, corn, tobacco, wheat) were over $1,360,000,000—with upland cotton total by far the largest. Borrowings outstanding with the CCC in the entire price-support program as of last summer were $2,450,000,000. The balance of over $1,000,000,000 of this total included inventories acquired under loan, purchase agreements, and direct-purchase operations. The net realized loss of the entire CCC price-support program for the fiscal year through June 1949 was $254,000,000. The CCC is authorized to have $4,750,000,000 outstanding in loans at any one time.

Textile-Institution Collaboration. Lowell Textile Institute and Massachusetts Institute of Technology are now pooling their textile resources for the benefit of graduate and undergraduate students. The cooperative action covers mutual use of facilities for research and manufacturing at Lowell Textile Institute for M.I.T. graduate-student theses, and use of M.I.T. textile-division facilities for L.T.I. student theses, particularly at the graduate level. Also included are the use of books, periodicals, and theses on textiles and the textile field in both libraries.

Devaluation Benefits Are Moderate. Devaluation is proving no cure-all for the British textile manufacturer, according to reports from England. Devaluation has reduced British dollar earnings from fabrics of quality or novelty in which price is not the primary consideration. It has given the British an opportunity to make competitive offers in bulk lines; but as the British have neither sufficient inventory nor realisable production, gains have been only moderate in bulk lines. Britain's ability to adapt itself and tackle the American market in volume, the road to more dollars under pound devaluation, is slow in making itself felt.

Briton Calls for Competition. The British cotton-textile-industry economy is over-rigid, and its efficiency standard has fallen too low, according to Geoffrey Crowther, editor of "The Economist," in discussing the future of British cotton textiles at Harrogate, England, recently. He advocated a return to competitive conditions. Britain would not maintain full employment if production costs were not lowered, he emphasized, and there has to be competition to bring about the economic efficiency which leads to the desired lowered costs. The situation calls for retreating from the security-mindedness of "over-full" employment, with its easy wages and profits, to a more-elastic full-employment situation where there even might be a few "unemployed" competing for various markets or jobs in the industry. No force is comparable to competition for bringing about economic elasticity and efficiency, he claimed.

South Africa Labels Woolens. All South African wool goods, imported or locally manufactured, from now on must bear a label stating the percentage of wool in the article for sale. The words "worsted" and "woolen" must disappear from goods unless sellers have proof of their exact wool content. The South African Bureau of Standards now examines woolen articles displayed for sale and bought by its inspectors to insure that they contain the amount of wool claimed in them. The regulation, following the pattern of the American Wool Products Labeling Act, is the result of a 12-year campaign by the South African Wool Board.

Cotton Spindles in Hong Kong. There are approximately 86,000 American cotton spindles in Hong Kong out of the 228,000 in place there, or almost 38% of the total—the largest percentage from any country. Fourteen cotton spinning mills are located in the British Crown Colony, now with only about half the total spindles in operation. American textile-equipment exporters supply more machinery and replacement parts for Hong Kong cotton manufacturing than do those of any other country.

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1. Automatic - bobbin holders equipped with holding wings electrically hardened all the way through.
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We make holders for ¾" to 2½" bobbin heads, including large-package wood and paper bobbins, also special bobbins. Duplex holders take both automatic and non-automatic bobbins.

Holders for all types of mules, frames, twisters and winders.

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TREATED NYLON NOW AVAILABLE

DeCetex 104 the new Dow Corning Silicone water repellent treatment for nylon and acetate rayon fabrics has . . .

DURABILITY . . . greater resistance to laundering and dry cleaning.

QUALITY . . . treated fabrics have soft and smooth hand free from mark-off.

ECONOMY . . . cost is comparable to other high quality water repellent treatments.

DeCetex 104 promises to become the preferred water repellent treatment for nylon and acetate rainwear and sportswear.

DeCetex 104 is easily applied from water emulsion using conventional textile finishing equipment. No more than 2 to 3% pickup is required. The fabric is then dried and cured. No further processing, washing or neutralizing is necessary. Best results are obtained where at least 300°F. is available for curing.

The following finishers are experienced in applying DeCetex 104:

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For more information about this Dow Corning Silicone, phone our nearest branch office or write for data sheet A-J-12

DeCetex 104

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NEWS ABOUT Suppliers

Equipment Suppliers

Benjamin Booth Co., Philadelphia, Pa., has appointed Oliver D. Landis, Inc., Charlotte, N. C., its exclusive representative in Virginia and the Carolinas for Strip-O-Matic card clothing. The Landis firm also represents, in the same area and Georgia, **Arthur S. Brown Mfg. Co.**, Tilton, N. H., makers of Tilton belts.

Brush Development Corp., Cleveland, Ohio, will produce and market the uniformity meter developed at the Institute of Textile Technology, Charlottesville, Va. To be known from now on as the uniformity analyzer, the electronic instrument measures and makes a permanent record of the irregularities in weight per unit-length of yarn, roving, or sliver.

Cameron Machine Co., Brooklyn, N. Y., has named Charles A. Walmsley vice president in charge of production. He has been with the Cameron organization since last June as head of production.

Electric Storage Battery Co., Philadelphia, Pa., has opened a new plant in Atlanta, Ga., devoted to the manufacture of Exide batteries. In the new plant, facilities are provided for the assembly of industrial batteries as well as of automobile batteries.

Elliott Co., Jeannette, Pa., has re-appointed Harry A. Erb assistant to M. A. King, vice president in charge of engineering. His headquarters are at the main plant of the company at Jeannette. Mr. Erb first came with Elliott in 1928. For the past six years, he had been steam-turbine department service manager for Worthington Pump Co.

Ginsberg Machine Co., Inc., New York, has been named international distributor for loose-end thread-trimming equipment and other products manufactured by Textile Trimming & Boarding Machine Co., Inc., Reading, Pa. The thread-trimming equipment is known as "Trim-Master."

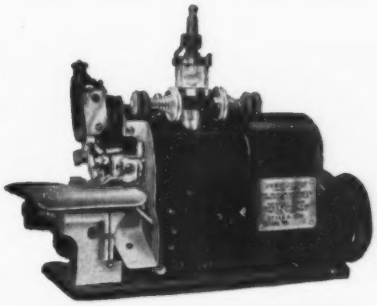
Rodney Hunt Machine Co., Orange, Mass., has established a Southern office in the Woodside Building, Greenville, S. C. T. W. Kitchen, formerly with Dan River Mills, Inc., is managing the new Southern office.

FLOYD J. GUNN has been made head of coatings sales, Plastics Div., Dow Chemical Co., Midland, Mich. He replaces C. Benson Branch, new manager of Technical Service and Development Div. of the firm.

Kaumagraph Co., Wilmington, Del., has appointed William N. Given general sales manager. Mr. Given was formerly with Pearce Mfg. Co., Rohm & Haas Co. textile-chemical division, Webb Mfg. Co., and finally with a textile converting and distribution business of his own.

Minneapolis-Honeywell Regulator Co., Minneapolis, Minn., has bought a one-story factory building containing 102,000 sq. ft. to accommodate expansion made necessary by stepped-up activity of company special-products division. Belfield Valve Div. of the firm has added men to its field sales staff: Russell A. Schlegel in New York, George Brown in Cleveland, Robert Scott in Chicago, and William Clements in Los Angeles.

Platecoil Division, Kold-Hold Mfg. Co., Lansing, Mich., has appointed Clayton P. Yoder sales manager. He will have charge of training personnel and general promotion of the electrical heating products of the Platecoil di-



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NEW, BETTER more economical EXSIZE-T

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Question: Is it a chemical?

Answer: No! Exsize-T is a liquid enzyme concentrate that mixes readily with water.

Question: Is it harmless to fabrics?

Answer: Exsize-T is harmless to the sheerest and most delicate fabrics.

Question: Can it be stored safely?

Answer: Yes, it keeps well without loss of its starch digesting power.

Question: What is its temperature range?

Answer: Best results with the desizing bath at temperature between 130° and 140° F. If greater speed is desired, temperatures as high as 170° F can be used with slightly higher enzyme concentration.

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Answer: Actual use over a long period in many large textile mills has proven Exsize-T most efficient and economical.

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NEWS ABOUT *Suppliers* (Continued)

MARTIN J. CONWAY (right), Pittsburgh office manager of Michigan Alkali Div., Wyandotte Chemicals Corp., received in a presentation at Wyandotte, Mich., a gold watch from Bert Cremers, vice president of the division, in recognition of his completion of 25 years of service with the company.

vision. Four new representatives of the company have been named: Henry P. Thompson Co., Cincinnati; Power Plant Efficiency Co., Indianapolis; Patton Equipment Co., St. Louis; and W. P. Nevins Co., Chicago.

F. L. Regnery Corp., Chicago, Ill., has named as sales representative in South Carolina, R. M. Turner of Joanna, S. C.; and as representative in North Carolina, Clarence S. Sikes of Charlotte, N. C. They will handle the sales of aluminum spindle adapters.

Robert Reiner, Inc., Weehawken, N. J., recently bought an additional building at Union City, N. J., which provides about 12,000 sq. ft. more floor space for the assembly of Reiner tricot, simplex, and raschel machines.

E. H. Sargent & Co., Chicago, Ill., recently completed a new and modern building for its home offices and plant. It occupies approximately three acres on a five-acre company-owned tract of land. The firm manufactures and distributes scientific laboratory instruments, apparatus, and chemicals.

Standard Pressed Steel Co., Jenkintown, Pa., has made a number of changes in its sales organization. George A. Gade, former district manager in Detroit, has been appointed regional sales manager in the Mid-West. Succeeding Mr. Gade as Detroit district manager is Francis J. Kinsella, a former sales representative in the area. A. Clayton Graham replaces William C. Harper in the New England territory. Mr. Harper is now Cincinnati district manager.

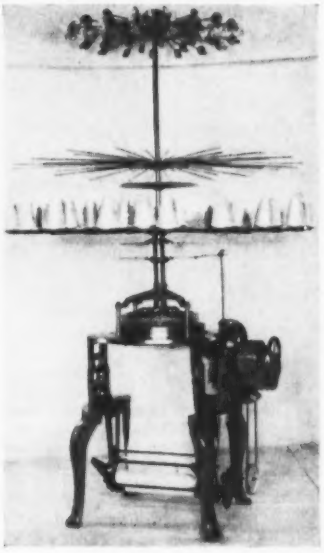
Universal Winding Co., Providence, R. I., is conducting at its Cranston, R. I., plant a series of exhibits featuring suppliers' products. Each participating supplier exhibits for a period of one week, and a representative of the firm is in attendance to answer questions regarding his company products.

Whitin Machine Works, Whitinsville, Mass., has opened sales and service offices in Spartanburg, S. C. Richard W. Dunn of Rocky Mount, N. C., is agent in charge of South Carolina territory. P. M. Willingham, company service officer for the area, is now working out of the new division. William A. Porcher, of the Charlotte, N. C., office, is serving as consultant.

Chemical and Yarn Suppliers

Air Reduction Co., Inc., has made H. R. Salisbury president of Air Reduction Sales Co. Appointed vice presidents were H. F. Henriques, J. J. Lincoln, Jr., S. B. Stouffer, and N. L. Wisser.

American Cyanamid Co., Calco Chemical Div., Bound Brook, N. J., has named Elmer Carling as an assistant sales



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By TOMPKINS

The Tompkins Model B-15 is a multiple feed latch needle machine engineered to produce maximum volume of work at minimum cost. Completely factory equipped, it requires only a few hours to install and place in operation. Simple design minimizes maintenance and attention—makes it easy to operate. Electric stop motion eliminates imperfections and waste—stationary take-up permits close inspection of cloth at all times. Available in cylinder sizes 9" to 24" and in gages up to 42.

Established 1846

Over a century of continuous service to the knitting industry throughout the world

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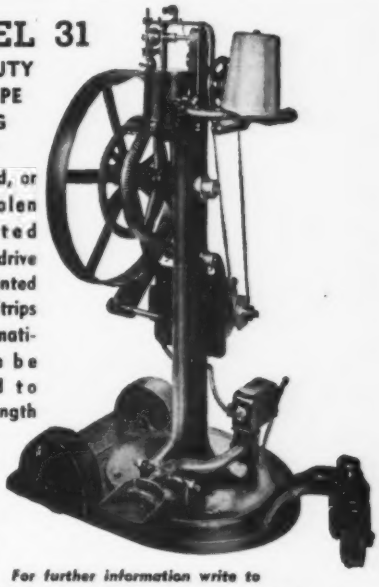

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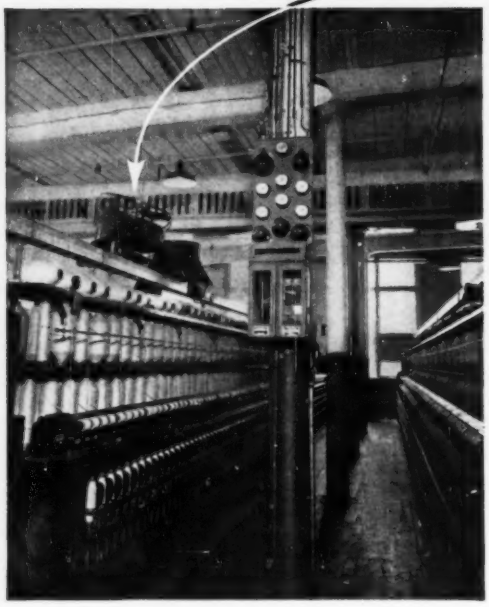

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NEWS ABOUT *Suppliers*

manager under Leo Sklarz, sales manager, Pigment Dept. Mr. Carling, former Eastern regional sales manager, will be located at Bound Brook. Clifford D. Siverd, former assistant Eastern regional manager, succeeds Mr. Carling in New York. John Dietze has been made sales representative in the metropolitan area.

American Viscose Corp., New York, has switched plant managers at Marcus Hook and Lewistown plants. F. Farwell Long, manager of the Marcus Hook plant for the last ten years, has become manager of the Lewistown plant. He has been succeeded at Marcus Hook by Harold J. Michel, manager at Lewistown since 1947.

Atlantic Chemical Co., Inc., Centredale, R. I., has appointed James C. Shore to the position of director of application development, technical service, and sales promotion. He was formerly chief chemist of the Glenlyon Print Works.

E. I. du Pont de Nemours & Co., Inc., Martinsville, Va., nylon plant established a new world safety record recently and won an award from the National Safety Council. The company has run nearly seven years without a lost-time accident. The parent company at Wilmington, Del., has licensed Algemeen Kunstazijde Unie (AKU), large Dutch rayon concern at Arnhem, the Netherlands, to manufacture nylon for European consumption.

Glass Fibers, Inc., Waterville, Ohio, has elected R. F. Mensing vice president and treasurer, and F. H. May, Jr., vice president, secretary and assistant to the president. W. R. Smith has been appointed sales manager of the mat division.

Graver Water Conditioning Co., New York, has appointed Henry T. Sulcer general manager. He had been general auditor of the parent company, Graver Tank & Mfg. Co., Inc., which he joined in 1948. Aiding Mr. Sulcer as assistant general manager is Edward W. Welp, who will make his headquarters in Chicago. S. D. Barr, previously in charge of Eastern district sales, has been advanced to general sales manager, with offices at New York. New Cleveland and Philadelphia sales and field engineering offices have been set up. Technical division of the company, now headed by Vincent J. Calise, has been divided into sections specializing in boiler-feedwater conditioning, ion-exchange systems, filtering systems, and waste-water disposal and reclamation systems.

***M. LEONARD SLESINGER** has been appointed Southern sales manager of the Textile-Chemical Div., Dexter Chemical Corp., with headquarters in Charlotte, N. C. Since 1946, he had been technical sales representative for the firm in the Carolinas.*

E. F. Houghton & Co., Philadelphia, Pa., has made appointments in the South: F. F. Hunt has been transferred from the Mississippi-Louisiana territory to Georgia, Florida, and southern Alabama, with an office in Atlanta. J. G. Reese, former junior salesman in Oklahoma and at New Orleans, has been transferred to Chattanooga to service accounts in northern Alabama, eastern Tennessee, and northern Georgia. A. N. Jackson represents the company in the central and eastern sections of North and South Carolina, working from Charlotte, N. C.

Industrial Rayon Corp., Cleveland, Ohio, has named Bjorn F. Benson to its research staff. Former technical superintendent of Inland Rubber Corp., Chicago, Ill., he will be concerned with the developmental aspects of rayon for tires and other industrial products.

Monsanto Chemical Co., St Louis, Mo., has made known the retirement of J. B. Rutter, vice president and general manager of its Merrimac division. Mr. Rutter has retired early to

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in wool, cotton and rayon

MODEL PD-1 — for textiles in loose or compressible forms

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Quick, Accurate Readings

In less than 3 seconds you can test moisture content of practically all types of textile materials, including cotton, wool, rayon and nylon in fabrics, packages and loose forms.

This portable instrument is designed for "on the spot" checks in your plant. Moisture Register is easy to operate—requires no technical knowledge or complicated figuring. Cost is negligible in comparison to advantages. Write today for complete details. Specify type of material to be tested.

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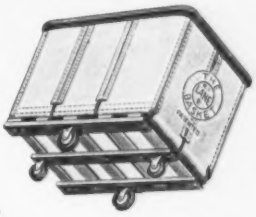
John: Let's order new Douglas Spunray Gum for warp sizing spun rayons, spun acetates and mixtures. Understand protects yarns like standard starches yet desizes completely in soap and water.
Jim



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and Thanks
to Our Many Friends
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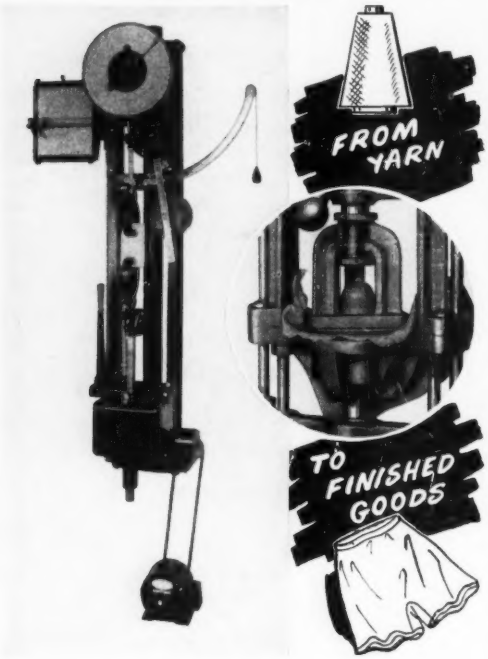

MODEL J TENSILE TESTER WITH BALL-BURST ATTACHMENT

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95 BLACKSTONE ST. PROVIDENCE, R. I.

Standard of the World

NEWS ABOUT *Suppliers* (Continued)

***CHARLES C. SMITH** was recently promoted to general sales manager for the Tape Div., Minnesota Mining and Mfg. Co., St. Paul, Minn. A member of the 3M organization since 1928, he had for eight years been sales manager for cellophane tapes.*

devote full time to service as an industrial consultant, and he has been retained by the company in the latter capacity.

Morningstar, Nicol, Inc., New York, has been appointed sales agent for the Houlton and Mars Hill, Me., factories. Sales of New England Starch Co. plants are thus combined with those of Aroostook Potato Products Co., a subsidiary of Morningstar, Nicol, Inc. The output of the three mills represents the largest tonnage of potato starch produced in Aroostook County, Me.

Onyx Oil & Chemical Co., Jersey City, N. J., has moved its New England office from Providence, R. I., to 80 Federal St., Boston, Mass. Philip E. McLean, New England sales manager, is in charge.

Owens-Corning Fiberglas Corp., Toledo, Ohio, has named Harold D. Bates manager of its New York sales office. The company has developed a vinyl-coated cloth woven of Fiberglas yarns, known as Fibrylon, which is already being used for the sides of welding booths.

Prufcoat Laboratories, Inc., Cambridge, Mass., has appointed John G. Wild assistant sales manager. Mr. Wild for 12 years has been active in the field engineering of synthetic-resin coatings.

Stein, Hall & Co., Inc., New York, has named Fred G. La Piana its director of textile research. He has been with Stein, Hall since 1925, much of the time prominently active in textile research and development. He had been head of the company Providence, R. I., textile laboratory.

Tennessee Corp., Atlanta, Ga., is building a new liquid sulphur-dioxide plant at Copper Hill, Tenn. The new plant, expected to be in operation by next month, will produce high-grade liquid sulphur dioxide for shipment in bulk tank cars and various-sized cylinders.

Warwick Chemical Co., Division of Sun Chemical Corp., has appointed S. Y. Stribling Southern service manager for Suntone textile pigment colors and clears. Mr. Stribling will make his headquarters at Rock Hill, S. C.

Other Services

Cotton Fibres, Inc., Atlanta, Ga., has recently been formed to deal in cotton waste and linters. The firm will serve cotton mills; mattress, furniture, and commercial felt manufacturers; and chemical and plastic industries. Bert M. Wallenstein, vice president, will be in charge of the Northern office in Cincinnati, Ohio.

Harris Research Laboratories, Washington, D. C., has appointed Dr. Alfred E. Brown assistant director of research, and Dr. Anthony M. Schwartz manager of the new industrial-chemicals division. Dr. Brown will direct an extended program of research in the field of protein fibers; Dr. Schwartz will supervise work on surface active agents and other industrial chemicals. New additions to the technical staff include Marian M. Hellstrom, Jacqueline M. Fritchard, and Nancy Jane Tucker.

U. S. Testing Co., Inc., Hoboken, N. J., has added equipment to and has expanded the staff of its detergent laboratory for the testing of soaps, synthetic detergents, and other surface-active agents. New cleansing products can be compared in small-scale operations to simulate full-scale ones. The company now has available standard-soiled acetate fabric, supplementing those of cotton and wool fabrics.

NEWS ABOUT *Mills*

Cotton-Mill News

Athens Mfg. Co., Athens, Ga., has installed a number of additional looms and auxiliary equipment for production of new piqué weave for women's cotton dresses.

F. Burkart Mfg. Co., St. Louis, Mo., has let contract to Willingham Construction Co., St. Louis, for one-story warehouse at 300-30 E. Prairie St., to cost about $30,000.

Cherokee Textile Mills, Inc., Knoxville, Tenn., has signed long-term lease for portion of 27th floor of 36-story building at 100 Park Ave., New York, N. Y., now under construction. Spindale Mills, Inc., associate of Cherokee, will jointly occupy new office space.

Clinton Cotton Mills, Clinton, S. C., is constructing $75,000 cloth room which will double cloth-handling space and provide air-conditioned office.

Dominion Textile Co. Ltd., Sherbrooke, Que., is planning alterations to section of existing plant to provide needed office space.

Dover Mills Co., Shelby, N. C., plans 100-loom expansion and modernization program. Cost will be from $500,000 to $750,000. Contracts have been awarded to Fiske-Carter Construction Co., Greenville, S. C., for new weave room.

Erwin Cotton Mills Co., Plant No. 8, Stonewall, Miss., is rebuilding all looms as part of long-range improvement program. New warp-tying-in machines are being installed in beaming and slashing room.

Father George Mills, Sanford, N. C., is removing 300 36-in. looms and replacing them with latest-type 40-in. looms. Modernization is expected to be completed by next month.

Greene Lace Works, Inc., Coventry, R. I., has been chartered with capital of 200 shares of stock to operate mill. Walter E. Greene, Coventry, is principal incorporator.

Hartwell Mills, Hartwell, Ga., confirmed plans for doubling size of plant at annual meeting of stockholders and directors. Work is expected to get under way as soon as new water tank is erected and water lines and hydrants removed from ground area to be covered by new building. Contracts have been awarded to C. M. Guest & Sons, Anderson, S. C., for building; and to Bahnson Co., Winston-Salem, N. C., for air conditioning of both new and old buildings. Bids have been received for new 100,000-gal. water tank.

Lydia Cotton Mill, Clinton, S. C., has completed $200,000 three-story warehouse. Other improvements now under way include modernization of opening, carding, weaving, and spinning rooms.

Naumkeag Steam Cotton Co., Salem, Mass., is to begin construction early next year on $2,500,000 or $3,000,000 initial plant on land purchased near Penrose, N. C. First units will cover about four acres and employ 500 to 750. Plant will be used for spinning and weaving.

Pinecrest Cotton Mills, Pine Bluff, Ark., has received six carloads of machinery, which is to be installed by Christmas. Plant, which will employ 300 persons, is expected to begin operations in January.

Riegel Textile Corp., Trion, Ga., has installed two color-mixing aids, one Votator, and one colloid mill in printing department of dyeing and finishing unit.

Rhyne Mfg. Co., formerly Alba Twine Mills, near Stanley, N. C., has been purchased by J. Edward Kale, Lincolnton, N. C.

Russell Mfg. Co., Middletown, Conn., will establish branch plant at Lexington, S. C., for production of nylon and cotton elastic narrow fabrics. Large building formerly occu-

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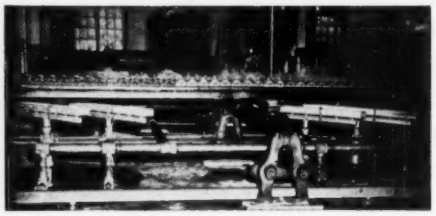

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KENWOOD MILLS

Rensselaer, N. Y.

NEWS ABOUT *Mills* (Continued)

pied by U. S. Air Forces has been acquired on long-term lease by Russell Products Co., Inc., subsidiary of Middletown concern. Battery of high-speed looms made by Clustom Machine Co. have been moved to Lexington from Springdale, Conn., where they were recently acquired.

Saratoga-Victory Mills property in Alabama has been purchased by J. R. Abney, Sr., vice president of Anderson Cotton Mills, Anderson, S. C., for approximately $750,000. Property consists of two mills, one at Albertville, Ala., which has 19,190 spindles and 540 looms; and one at Guntersville, Ala., with 21,936 spindles and 600 looms. Former owner was M. Lowenstein & Sons, New York.

Southern Chemical Cotton Co., Chattanooga, Tenn., has let contract to Mark K. Wilson Co., Chattanooga, for one-story building to be used for warehouse. Cost is estimated at $85,000. Work will proceed at once. Selmon T. Franklin, 421 Poplar St., Chattanooga, is architect.

Springs Cotton Mills, Lancaster, S. C., has awarded contract to H & B American Machine Co., Pawtucket, R. I., for new long-draft spinning change-overs to equip spinning frames at Gayle plant in Chester. The mill has purchased drawing, lap winders, and combers from Saco-Lowell Shops, Biddeford, Me., to convert Springsteen plant at Chester from carded to combed broadcloth. Delivery of machinery is expected to be completed by January. Springsteen plant will have 35,000 spinning spindles and 624 looms when program is completed. Company has also purchased 60 frames of J-3 roving for Lancaster, S. C., and Fort Mill, S. C., plants, from Saco-Lowell. It has bought from Whitin Machine Works, Whitinsville, Mass., sufficient Interdraft equipment to convert all present roving frames in Eureka plant at Chester.

Textiles, Inc., Gastonia, N. C., has remodeled card room of Arkray unit, making it fireproof and one of most modern in South. There are now 58 cards operating, 29 being new and remainder reconditioned.

United States Rubber Co. has work now going forward on $250,000 laboratory for textile research at its Winnsboro Mills, Winnsboro, S. C. New laboratory will permit consolidation of research and development work now carried on in Winnsboro, in Hogansville, Ga., and elsewhere, and will allow substantial expansion in textile research. S. H. Sherman, development manager of textile division, will move his headquarters from Hogansville to Winnsboro and will be in direct charge of laboratory.

Wabasso Cotton Co. Ltd., has begun construction on extension to assembly shop at plant at Shawinigan Falls, Que. Building will be one-story, 60x40 ft., of concrete and wood construction. Cost is estimated at $10,000.

Waverly Mills, Laurinburg, N. C., has begun laying of water and sewer lines in its village to equip its 248 houses with bathroom facilities. It is expected to be completed by next spring at cost of approximately $150,000.

Woolen- and Worsted-Mill News

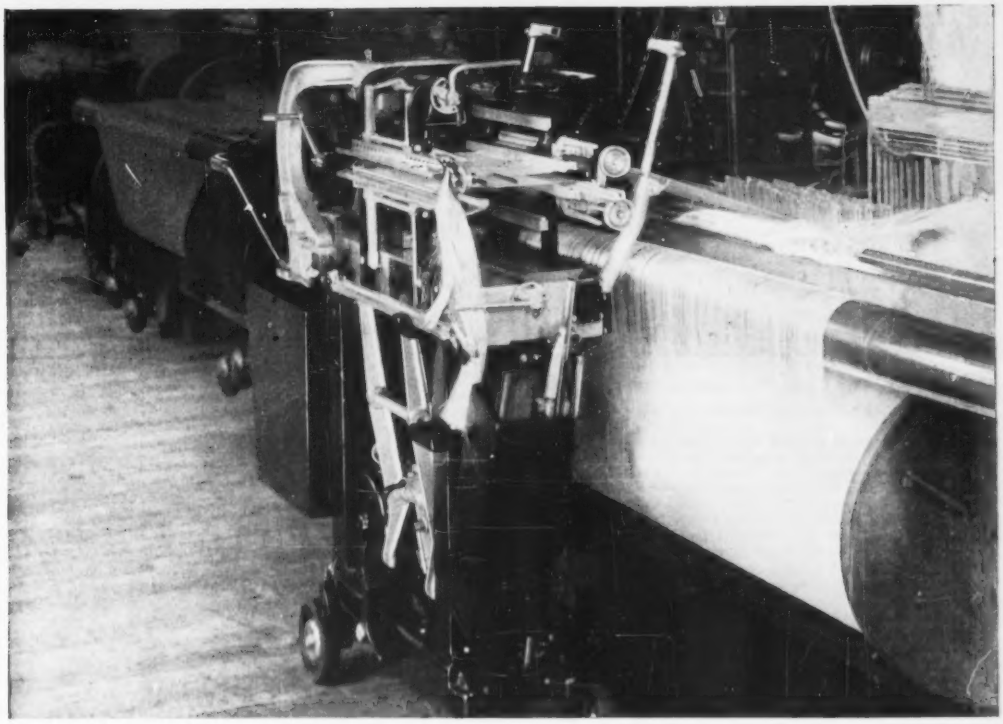
Albot Worsted Co., Graniteville, Mass., has made Kenneth N. Merrill special sales representative, with offices in New York.

Dublin Woolen Mills, Dublin, Ga., has awarded contracts for two additions to provide 45,000 sq. ft. of additional space. H. C. Ervin, manager, stated that additions were necessary to accommodate dyeing and finishing operations at Dublin for two Milledgeville mills, part of same organization.

Eastland Woolen Mills, Corinna, Me., is building addition to plant to use as dye house.

Kenilworth Worsted Mills, Inc., Power House Lane, Boston, Mass., has been incorporated to manufacture worsted and woolen goods. Sidney Brady, 4 Kenilworth St., Newton, Mass., is president.

Peerless Weaving Co., Inc., Pawtucket, R. I., has been chartered for purpose of spinning, weaving, and manufacturing woolens, worsteds, etc. Incorporators consist of Walter Adler and Hazel Hepworth.



BARBER-COLMAN PORTABLE WARP TYING MACHINE SPEEDS REPLENISHMENT OF SYNTHETIC WARPS

BARBER COLMAN

The reduction of loom down-time is an important factor toward successful competition in the textile business. The less a loom is idle, the more goods it can produce; the greater the mill production, the more economical that production becomes. The Barber-Colman Portable Warp Tying Machine has proved its ability, in hundreds of mills, to reduce loom down-time required for replenishment of warp. One model of this machine (Model LS) is specially designed for synthetic yarns — and is also extremely efficient on wool, worsted, mohair, and other difficult yarns. The speed of the machine is illustrated in the example of mill data in the table at the right. The machine works directly back of the loom, as illustrated above, and is so compact that it can be operated in narrow loom alleys. Your Barber-Colman representative is qualified to discuss details of the possibilities for this machine in your mill — get in touch with him at the next opportunity.

DATA FROM A MILL
VISCOSE YARN
Number of ends on Beam — 5,714 160 sley by 68 picks 150/40/1-1/8 Viscose 6 Harness, 4 banks of Drop Wires
Average ends per hour tied — 5,761, on B-C Model LS Portable Warp Tying Machine. This includes preparation, tying-in, and pulling through.

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The Changing Times and the Demands on Management Today

THE conditions under which business enterprises must be conducted are continually changing. Frequent adjustments in policies are necessary to meet changes in laws and other public controls, in social forces, in markets, and even in international economics. The problem of making these adjustments and at the same time keeping abreast of progress in the science and art of management has become a formidable challenge to executives. They are finding it more and more difficult to get time for policy making and administration and also for the inauguration of operating improvements. Moreover, these conflicting demands come at a time when it is more important than ever that planning be skillfully done, organization be flexible and responsive, operating procedures be appropriate, effective, and economical, and relationships among workers on all levels be harmonious.

(Excerpt from Association of Consulting Management Engineers pamphlet.)

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Write, stating type of labels interested in, and get full information.

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YORK, PA.

NEWS ABOUT *Mills* (Continued)

Providence; and Joseph R. Weisberger, East Providence.

David Pike & Co., has begun erection of new textile plant on Ave. St. Sacrament, Quebec City, Que. François Jobin, Inc., 88 Chemin St. Louis, Quebec City, is general contractor. Lucien Mainguy, 1045 Ave. Chaumont, Quebec City, is architect.

Synthetic-Mill News

Burlington Mills Corp., Greensboro, N. C., is planning to spend $40,000,000 on capital expansion and improvement during next three years. Most important feature of program will be to round out existing plants by installation of additional machinery. Company has completed new $250,000 addition to Bur-Mil Laboratory at Greensboro. Extra floor space provided by addition is four times greater than that in old laboratory structure. It is under supervision of George A. Smith. Annual maintenance cost of new laboratory is expected to amount to $325,000. The company has sold to local textile interests its Textilera Mavabeque weaving plant at Guiness, Cuba, and its Textilera La Victoria dye plant at Marianao, Cuba. Clyde L. Hawkins, former manager of the plants for Burlington in Cuba, is continuing in the same capacity for the new owners.

Canadian Industries Ltd., Montreal, began work recently with its own forces on extension to its nylon plant in Kingston, Ont. Construction is estimated to cost about $5,000,000. Spinning and textile area will be enlarged in width by 50 ft., three to six stories high. Other smaller additions to existing plant are being made.

Concord Weaving Mills, Inc., Pawtucket, R. I., has been chartered to manufacture rayon fabrics. Maxwell E. Waldman, 225 5th St., Providence, R. I., is principal incorporator.

Consolidated Textiles Ltd., care of general contractor, Main Construction Co., Reg'd, 4535 City Hall Ave., Montreal, is erecting two-story mill, 112 x 33 ft., on Archambault St., Joliette, Que. Cost is estimated at $18,000. It will be of brick and concrete-block construction, with frame of steel. Max W. Roth, 1015 Sherbrooke St. W., Montreal, is architect.

E. I. du Pont de Nemours & Co., Inc., Nylon Div., Wilmington, Del., has let contract to Bethlehem Fabricators, Inc., Bethlehem, Pa., for structural steel framing for addition to plant at Seaford, Del.

Greenwood Mills, Inc., Harris unit, Greenwood, S. C., new rayon mill, will begin operation about Jan. 1. Installation includes 20,000 twisting spindles and 700 looms, one-third more than was originally planned. Plant will be 230x860 ft., providing 200,000 sq. ft. of floor space.

Frank Ix & Sons, New York, has asked for bids on plans and specifications for textile plant which will be located in Lexington, N. C. Structure is to be 235x295 ft., of brick, concrete, and steel construction. Company has already purchased steel; installation of air conditioning will be handled separately from general bid.

M. & D. Weaving Co., Inc., Pawtucket, R. I., has been incorporated to manufacture rayon fabrics. Nicholas Martin, 588 Benefit St., Pawtucket, is principal incorporator.

Peerless Mills Co., New York, N. Y., is reported to be negotiating for site in vicinity of Anderson, S. C., for rayon-weaving plant.

Textron, Inc., Hartwell, Ga., plans to install 132 additional looms, increasing capacity 55% over original plans. All looms, including original and additional, will be in place by Jan. 1. New looms are Draper automatics.

United Rayon Mills, Elberton, Ga., recently expanded, is beginning operations even though installation of machinery has not yet been completed. J. E. Copin is in charge of new dyehouse, and Ralph Harris is foreman.

Knitting-Mill News

Athens, Ala.—Work will begin shortly on remodeling of old Athens College hosiery mill. Construction of a new $100,000 building will also be undertaken which will be

NEWS ABOUT *Mills* (Continued)

leased and operated by a national underwear manufacturer.

Belding - Corticelli Ltd., Montreal, has started work on new $150,000 hosiery plant on St. Charles Rd., near Taschereau Blvd., Montreal (Greenfield Park). Anglin-Norcross, Quebec, Ltd., 892 Sherbrooke St. W., Montreal, is general contractor. Consulting industrial engineers are T. Pringle & Son Ltd., 485 McGill St., with E. C. Miller as architect.

Belvedere Hosiery Co., Charlotte, N. C., put four 60-gage full-fashioned knitting machines into operation last month. These will give company approximately 1,000 doz. prs. additional production of stockings weekly. Company plans to install total of ten 60-gage machines, but construction of addition to plant will be necessary.

Black Knitting Mills Ltd., Montreal, has awarded general contract for alterations to building at 5120 St. Dominique St. Cost is estimated at $17,000. Architect is Reuben Fisher, 3476 Park Ave., and contractor is Leon M. Adler, 75 Mansean Ave., both of Montreal.

Butler Hosiery Mills, Hartsville, S. C., has obtained charter to manufacture and sell hosiery, fabrics, and other merchandise. Authorized maximum capital stock is $225,000. Chalmers M. Butler is president.

Canadian United States Knitting Ltd., St. Hyacinthe, Que., is erecting addition costing $38,500. General contractor is R. E. Stewart Construction Corp., 268 Wellington St. N., Sherbrooke, Que. Architects are Lawson & Betts, 660 St. Catherine St. W., Montreal.

Fort Valley Hosiery Mill, Fort Valley, Ga., has begun production of men's socks. It is owned and operated by J. W. Blake, one of organizers of Butler Hosiery Mill, Inc., Butler, Ga.

Hudson Hosiery Co., Charlotte, N. C., has practically finished work on one-story mill unit at Oakhurst plant. Installation of 60-gage full-fashioned knitting machines will soon be completed.

Johnson City Mills, Johnson City, Tenn., has purchased Wynwood Mills from Mrs. Irene Sykes, New York, at an undisclosed price. T. Floyd Dooley, president of Johnson City Mills, will operate Wynwood Mills as wholly-owned subsidiary. Johnson City Mill will manufacture Wynwood stockings and will distribute to present Wynwood accounts. Mrs. Sykes retains firm name of Wynwood Ltd., and will eventually go into business under that name at 843 Hollywood Blvd., Los Angeles, Cal. She will not, however, use name in hosiery business. Johnson City Mills has recently completed new 10,000-sq.ft. hosiery-finishing plant.

Miller-Smith Hosiery Mill, Chattanooga, Tenn., is installing 16 66-gage Wildman full-fashioned machines in branch plant at Delano, Tenn., and will soon install eight new 60-gage Textile Machine Works machines.

Nordic Hosiery Ltd., Granby, Que., has awarded contract for erection of one-story addition, 66x76 ft., to mill at same address. Carolus Marquis, 282 Parc, Granby, is general contractor; and Archibald & Illsley, 1440 St. Catherine St. W., Montreal, is architect.

"Par-Knit" Hosiery Ltd. is official name of firm which recently purchased plant in Clinton, Ont., from Richmond Hosiery Co. Its head office is in London. John S. Parker, formerly of London, owner of business, is president and general manager.

Robinson Hosiery Co., Gastonia, N. C., has begun construction of hosiery-mill building which will contain 6,000 sq. ft. of floor space. Company will produce 51-gage full-fashioned hosiery in gray.

Schneider Hosiery Co., N. W. 74th St. and 21st Place, Miami, Fla., will soon begin construction of building to house operating facilities. Company will employ 20 persons at start of operations and will conduct training school for future employees.

Sox, Inc., Mount Gilead, N. C., has been incorporated in North Carolina with authorized capital stock of $250,000 to manufacture hosiery. Prin-

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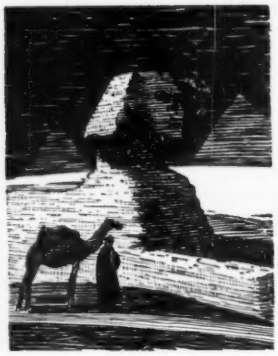

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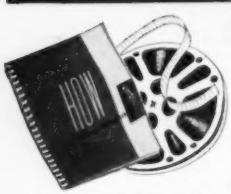

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NEWS ABOUT *Mills* (Continued)

cipals are D. A. Bruton and Lee Johnston, both of Mount Gilead; and Paul Russell, of Troy, N. C.

Thermo Mills, Plant No. 1, Hudson, N. Y., has been sold at auction to McDowell Associates, Inc., New York, for approximately $100,000. The new property is to be used for expansion purposes by the used- and rebuilt-textile-machinery firm. Present Bronx offices and repair shops are also to be maintained.

Thistle Knit-Wear Plant, Dayton, Yarmouth county, N. S., transplanted to Nova Scotia from Scotland, is now in operation. More machinery is expected to be brought from Scotland. Other Scotch textile firms are watching experiment with view to moving their plants to Canada.

Thomas Hosiery Mills, High Point, N. C., has been sold by Walter Thomas to W. H. Slane, Sr., president of Slane Hosiery Mills, High Point. Transaction does not include Thomas Mills Corp. Mr. Slane expects to begin operations in mill shortly after first of year, operating under different name.

Utica Knitting Co., Anniston, Ala., has installed Universal Roto-Coner and is now installing Parks-Cramer blower. Number of feeds per knitting machine is being increased by remodeling done at company machine shop in Utica, N. Y.

Ware Knitters, Inc., is closing plant in Calais, Me., and transferring production to its Berlin, N. H., plant. Calais unit employed 56 with annual payroll of $1,400,000. Decision to close was based on expected savings to be accomplished by combining production.

Winchester Hosiery Corp., Winchester, Va., with maximum authorized capital of $50,000, has been formed to manufacture, buy, sell, and deal in hosiery. Richard Voitel, 221 Parkway, Winchester, is president.

Dyeing- and Finishing-Plant News

Bellman Brook Bleachery Co., Fairview, N. J., has installed continuous peroxide-bleaching range of Du Pont type especially for organdies and plisses.

Cranston Print Works, Brickton, N. C., has established its various department heads at new $3,560,000 textile plant, to supervise installation of machinery. This cotton-goods printing plant is scheduled to be in operation this month, with one-fourth of its capacity employment on payroll. Mill building is large enough to house 10 printing machines. Boiler house and filter plant are virtually completed.

Crown Mfg. Co., Pawtucket, R. I., has put into operation new yarn-dyeing plant which will be known as Yarn Dyeing Div. New plant occupies 15,000 sq. ft. of floor space, and its new stainless-steel machinery includes eight dye kettles, two extractors, and ten dryers. Dye kettles have been placed above ground, which arrangement makes pumps visible and permits them to be cleaned.

Delta Finishing Co., Greenville, S. C., has been organized with capital stock of 10 shares, no par, to manufacture, finish, and deal in textile fabrics and fibers. C. F. Haynsworth, Jr., is president.

Joliette Worsted Co. Ltd., has completed installation of dyeing and finishing machinery in main building at Joliette, Que. Among new equipment is Rodney Hunt scouring and fulling machine, stainless-steel combination washing and dyeing machine made by same company, and experimental dyeing unit from J. A. Gosselin, Ltd.

Nicetown Dye Works, Philadelphia, Pa., will construct one-story addition for storage at Frankford Ave. plant. Addition will contain about 4,000 sq. ft. of floor area for storing worsted yarns.

Pinatel Piece Dye Works, Joliette, Que., plans to complete by end of November major plant expansion begun in 1948. In addition to extension of original building, wide range of new machinery is being installed. When complete, additions will represent investment of $1,400,000. Additional Van Vlaanderen stainless-steel dyeing machines are to be installed, also a National Drying Co. loop dryer.

NEWS ABOUT *Men*

Jim F. Armstrong has become superintendent of Yarn Specialties, Inc., Clover, S. C., succeeding D. B. Parrish, who resigned to become superintendent of Bowling Green Spinning Co., Bowling Green, S. C.

Clifford W. Ashley, former manufacturing agent for Nonquitt Mills, New Bedford, Mass., has been appointed manager of Aberdeen plant of Robbins Cloth Mills, Inc., Aberdeen, N. C.

E. D. Bagwell, formerly of Cowpens, S. C., has become superintendent of Glendale Mills, Glendale, S. C., succeeding H. B. White, who resigned to accept position with Moreland Chemical Co.

Werner von Bergen, director of research at Forstmann Woolen Co., Passaic, N. J., and A. Griffin Ashcroft, director of restarch at Alexander Smith & Sons Carpet Co., Yonkers, N. Y., were recently awarded scrolls by the American Society of Testing Materials for "outstanding contributions" to the woolen branch of the textile industry.

J. E. Blackwell has been appointed superintendent of mechanical department at Startex Mills, Startex, S. C., succeeding the late J. E. West. Mr. Blackwell had been second hand in the shop since 1941.

C. L. Blaisdell has become assistant superintendent at Eastland Woolen Mill, Corrina, Me.

Garner H. Bornstein was recently elected president of Consolidated Textiles Ltd., Montreal, with mills in St. Hyacinthe, Quebec. He has also been chosen president of holding company, Consolidated Textile Mills Ltd. He succeeds his brother, the late Joseph M. Bornstein, who founded Consolidated in 1929.

R. P. Cochran, Jr., has become superintendent of Rockfish-Mebane Yarn Mills, Inc., Hope Mills, N. C. He was formerly with Dixie Mercerizing Co., Chattanooga, Tenn.

W. B. Croxton has joined Frank Ix & Sons, Inc., Cornelius, Ga. as general manager. He was formerly assistant general manager of Robbins Cloth Mills, Inc., Robbins, N. C.

Dr. J. H. Dillon, director of research at the Textile Research Institute, Princeton, N. J., and Ernest R. Kaswell, president and associate research director at the Fabric Research Laboratories, Inc., Boston, Mass., were recently elected Fellows of the Textile Institute, Manchester, England. Dr. Dillon was cited for this research on tire cord and tire-cord fibers. Mr. Caswell was cited for his work on parachute suspension lines, on properties of textile materials in sub-zero weather, and on the development of nylon hosiery-yarn finishes and sizes.

Ernest A. Eckert has been

TEXTILE MEN gathered at the Textile Institute, Manchester, England, recently to hear an address on American technical developments by Edwin D. Fowle, publisher of TEXTILE WORLD. Left to right: A. E. Kallinich, vice president, Veeder-Root, Inc., Hartford, Conn.; H. Marsden, Universal Winding Co., Manchester, England; Mr. Fowle; and Bernard Butler, McGraw-Hill London office.

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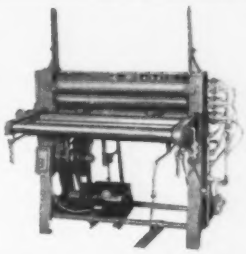

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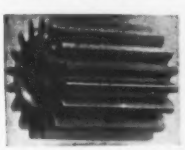

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NEWS ABOUT Men (Continued)

appointed resident manager of Puritan Mills, American Woolen Co., Plymouth, Mass., succeeding **Morris G. Einstein,** who has accepted a position with Yorkshire Worsted Mills, Lenni Mills, Pa.

John H. Fagan has become superintendent of Rush plant of American Yarn and Processing Co., Mt. Holly, N. C., succeeding **Walter B. Helms,** resigned. Mr. Fagan was formerly superintendent of Profile Cotton Mills, Jacksonville, Ala.

George W. Felker, III, supervisor of product development and production control at Southeastern Cottons, Inc., New York, has been made assistant to Donald Comer, Jr., president of the organization.

Ivan Y. T. Feng, a graduate last June at N. C. State College, who is now engaged in a research project designed to reduce neps in cotton fabrics, has been appointed research associate in the School of Textiles, N. C. State College. Feng received his primary education partly in China and partly in Europe, where he studied in both German and Dutch schools.

G. L. Golden, formerly with Goodyear Tire and Rubber Co., is now superintendent of Candlewick Yarn Mills, Cartersville, Ga.

Walter E. Greer, Greensboro, N. C., has been transferred to the New York Offices of Burlington Mills to have over-all responsibility of coordinating, planning, and programming production of filament, spun, and tricot fabrics. He will also supervise planning functions of New York and Burlington finishing divisions. **Thomas Toler** of Greensboro, group manager of company filament division, has been transferred from Greensboro to New York to assume duties in coordinating production of filament-yarn fabrics. **Frank E. Matthews** has assumed responsibility for the Greensboro office yarn-purchasing activities.

A. H. Hamilton, formerly associated with Hyde Park Mills, Inc., Covington, Tenn., has been made superintendent of Valley Mills, Inc., Columbiana, Ala.

Rudolph C. Harrington has been made manager of tire-cord production of Textile Div., U. S. Rubber Co. Appointment includes supervision of tire-cord operations in plants located at Shelby, Tenn.; Scottsville, Virginia; and New Bedford, Mass. His responsibilities also include production at plants located in Hogansville, Ga., and Winnsboro, S. C.

BERTRAND W. HAYWARD, director of the Philadelphia Textile Institute, is here shown boarding an American Overseas Airline plane for England, where he attended the conference of textile school deans.

Arthur J. Heinzmann has been made manager of Hull Dye Works, Derby, Conn. Mr. Heinzmann previously was assistant manager of rayon department of Pacific Mills.

D. H. Kenemur has been appointed superintendent of dyeing and finishing at Cramerton Mills, Cramerton, N. C. He was formerly chief chemist at Renfrew Bleachery, Brandon Corp., Travelers Rest, S. C.

James J. Lamb, manager of men's-wear department of Southeastern Cottons, Inc., New York, has been elected a vice-president.

Frank Madden, former superintendent at Bath Mills, Inc., Bath, S. C., has become superintendent of Seminole Mills, Clearwater, S. C., succeeding **John Latham. Cecil Davenport,** former assistant superintendent at Bath plant, has been promoted to superintendent.

Arthur P. Miller, member of the class of 1951 at Lowell Textile Institute, Lowell, Mass., was recently awarded the Owens-Corning Fiberglas

NEWS ABOUT *Men* (Continued)

Corp. scholarship carrying both tuition and $500 per year for expenses for both junior and senior years, plus the opportunity to work summers in either of the donor's two plants.

George Moon, the only living charter member of the Textile Associates Club, was presented a gift at the 50th-Anniversary dinner of the organization in Fall River, Mass., recently.

Mrs. Elsie M. Murphy, executive vice president and chairman of the executive committee of S. Stroock and Co. Inc., was recently elevated to the presidency of the organization. She is one of the few women in the country to hold a top executive position in a large textile organization.

Raymond E. Nelson has been promoted to general plant manager of Oscar Heineman Corp., Chicago, Ill., succeeding **Frank E. Morey,** retired. Mr. Nelson has been with the Heineman organization for ten years. He was formerly with Cheney Bros.

E. E. Oliver has become superintendent of bleaching at Exeter Mfg. Co., Exeter, N. H., succeeding **D. Leeper.**

Dr. Earl Olson, technical superintendent at E. I. du Pont de Nemours & Co., Inc., nylon plant, Martinsville, Va., has been transferred to Carrothers Research Laboratory, Wilmington, Del. He will be succeeded by **Dr. James Bellezza, Jr.,** research supervisor of the Du Pont rayon plant, Richmond, Va.

Robert C. Pickens has been appointed superintendent of Portland Woolen Mills, Inc., Portland, Oregon. He was formerly manager of the Fabrics Div., Oregon Worsted Co., Portland.

S. W. (Ted) Porges has joined the sales staff of Norwich Knitting Co., Norwich, N. Y. Mr. Porges was formerly vice president, sales manager, and director of the Kiumagraph Co.

C. Norris Rabold, Erwin Cotton Mills, Cooleemee, N. C., and consulting editor of TEXTILE WORLD, will be installed as president of the AATCC at the national council meeting of the group at the Hotel New Yorker, New York, Jan. 16.

Carleton R. Richmond has been elected chairman of the board of the directors at Wellington Sears Co., New York. **Raymond E. Perry,** former assistant treasurer, was elected treasurer, succeeding Mr. Richmond. Mr. Richmond has been with the organization since 1909, and Mr. Perry since 1922.

Coit M. Robinson, president and treasurer of United Spinners Corp., Lowell, N. C., was recently elected president of the Southern Combed Yarn Spinners Association.

Charles A. Seibert, E. I. du Pont de Nemours & Co., Inc., received recently the AATCC Olney Medal for outstanding achievements in textile chemistry. Now retiring from Du Pont after 50 years, he was the sixth annual winner of the Association award, and the first member of the supplying industry to be so honored.

J. G. "Joe" Shedd, general manager at Lane Cotton Mills, Inc., New Orleans, La., has been made vice president. He has taken over the duties of **J. Freyhan Odenheimer,** former president.

Wallace Splawn has become head of carding and spinning at Woodside Mills, Fountain Inn, S. C. He was formerly assistant superintendent of Saratoga-Victory Mills, Albertville, Ala.

Paul Stam, Textile Research Institute, Princeton, N. J., is now spending most of his time at the Brookhaven National Laboratory at Upton, L. I., N. Y. He is studying radioactive tracer techniques in dyeing.

John Thorp has retired as vice president and general manager of Fries, Va., plant of Washington Mills Co., Winston-Salem, N. C., after being with the company for over 48 years.

James J. Vallone, formerly with R. K. Laros Silk Co., Bethlehem, Pa., has been appointed plant superintendent at Myerstown Mfg. Co., Myerstown, Pa.

Parker S. Walsh has become

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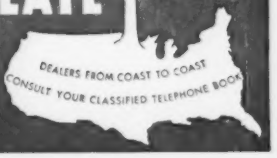

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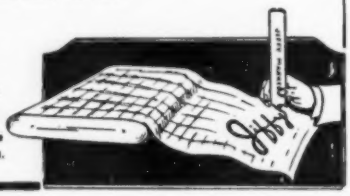

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NEWS ABOUT Men (Continued)

supervisor in the vat-dye department of finishing plant at Riegel Textile Corp., Ware Shoals, S. C. He comes from LaFrance Mfg. Co., Pendleton, S. C.

Francis W. White, resident manager of the Wood Mills, American Woolen Co., Lawrence, Mass., has been made vice president in charge of worsted-manufacturing operations of the firm. He has succeeded **T. Wendell Prestwich,** who resigned recently because of ill health.

Frank C. Williams, president of Roanoke Mills Co., Patterson Mills Co., and Rosemary Mfg. Co., Roanoke Rapids, N. C., was recently elected president of the North Carolina Cotton Manufacturers Association at the group's 43rd annual meeting at Pinehurst, N. C.

W. C. Worells, Neuse, N. C., is now superintendent of Clover Spinning Co., Clover, S. C.

Joseph Wozny is now at Charlestown Woolen Mills, Keene, N. H., in charge of second-shift carding.

William J. Yates, Johnson Mills Co., Charlotte, N. C., was recently elected president of the Carolina Yarn Assn., succeeding **Henry K. Kelly,** American Viscose Corp., Charlotte, N. C.

OBITUARY

Walter A. Goldsmith, 72, president of the silk company bearing his name, located in Cleveland, Ohio, died recently. Mr. Goldsmith and his father founded the Paris Silk Company in 1899. In 1923, the firm became the Walter A. Goldsmith Co.

R. Horace Johnston, 59, president of 13 textile manufacturing plants in North and South Carolina, died recently. For the past three years he had served as director of the Southern Combed Yarn Spinners Assn. He was nationally known as a trainer and breeder of trotting horses.

Emil G. Kattermann, 80, president of Swiss Knitting Co., died recently. Born in Germany, came to this country in 1889. He founded Swiss Knitting Co. two years later in Paterson, N. J., and in 1895 moved the firm to Dover, N. J.

John H. Peek, 66, president-treasurer of the Percy Kent Bag Co., Buffalo, N. Y., died recently. He joined the bag company in 1923 and became president in 1939. Previously, he had been associated with Fulton Bag & Cotton Mills, St. Louis, Mo.

Paul M. Stuart, 41, president and treasurer of the Stoughton (Mass.) Garnetting Co., lost his life recently during a fire in the plant. Mr. Stuart had dashed back into the plant machine shop to make sure that all employees had escaped, and was overcome.

RUSSELL H. LEONARD, 61, president of Pepperell Mfg. Co., died suddenly Nov. 5 at Brookline, Mass. He had been associated with Pepperell for 25 years, working up from treasurer to top executive. Under his guidance, the firm grew from one mill at Biddeford, Me., with a $9,000,000 annual volume, to its present leading position, with a $65,000,000 annual volume. Mr. Leonard was a former director of the National Assn. of Cotton Mfrs.

Charles M. Walker, 82, president of Monroe Cotton Mills, Monroe, Ga., died recently. He joined Monroe Cotton Mills as secretary in 1912 and was elected president in 1916.

Zaccheus F. Wright, 80, more than 40 years president of Newberry Cotton Mills, a position which he held until a few years ago, died recently.

Charles H. Brown, 69, ex-

NEWS ABOUT *Men* (Continued)

ecutive at Sawyer Div., American Woolen Co., Dover, N. H., died recently. He had just been honored at a banquet marking 50 years of association with the concern.

Arnold Friedlander, 54, vice-president of Phoenix Hosiery Co., Milwaukee, Wis., died recently. He was Pacific branch manager for the firm.

Arthur C. Johnston, 52, general sales manager, Dominion Textile Co. Ltd., Montreal, Quebec, died in October. He had been with the firm in various capacities for 36 years. He was cotton administrator of the Canadian Wartime Prices and Trade Board during the final months of the last war. He returned to the company again in January, 1946, as manager of converted fabric sales, then became assistant and finally general sales manager of the company.

J. L. Macdonald, for 23 years vice-president and general manager of Atlantic Underwear Ltd., Moncton, New Brunswick, until his retirement, died recently. He was active in the Maritime Branch of the Canadian Mfrs. Assn.

Lawrence J. Parrish, 56, vice-president in charge of manufacturing at Cluett Peabody & Co., Inc., died in October. He joined the firm in 1944 as assistant to the president to study production and cost methods and controls.

Sir Robert H. Pickard, 75, director of the British Cotton Industry Research Assn. at Shirley Institute, Manchester, from 1927 to 1943, died recently. He was president of the British Society of Chemical Industry, and its medalist in 1941.

Ralph L. Stevens, 79, died recently after a long illness. With his two brothers, Mr. Stevens organized the cotton-yarn commission house of C. H. and R. L. Stevens, which later became the Stevens Yarn Co., Inc. He was an executive there until his retirement in 1932.

Sidney A. Worms, 71, consultant for Allied Knitting Mills, New York, died in October. He was formerly president of Franklin Knitting Mills and Westminister Hosiery Mills.

JOHN M. BOTTS, 77, a senior partner at Harrington & Waring, Inc., New York, and president of Hollywood Hose, Inc., died recently in a Reading, Pa., hospital as a result of injuries sustained in an automobile collision. He had spent 61 years with Harrington & Waring, and was a well-known figure among hosiery men. In 1936 he patented the Monotop, a full-fashioned stocking with a single-fabric top.

James Balloch, 52, assistant manager of Renfrew Bleachery, Travelers Rest, S. C., died in October. A native of Lowell, Mass., and a graduate of Philadelphia Textile Institute, he came to the Renfrew plant 10 years ago.

Walter H. Dietrich, 65, director of purchasing and engineering at Duplan Corp., died recently. At the time of his retirement early this year, he had completed 34 years of service with the firm.

Richard B. Atkins, superintendent of knitting department at Washington Mills Co., Mayodan, N. C., died recently.

Henry G. Bragg, 82, superintendent at Charlottesville Woolen Mills, Charlottesville, Va., for 50 years, died recently. He was for a time a cloth inspector for the U. S. Government.

Guy L. Melchor, retired Southern agent for Howard Brothers Mfg. Co., Worcester, Mass., died recently. He had served in the Atlanta and surrounding area for 25 years.

H. Fred White, former cost engineer, Clarence Whitman & Sons, Inc., New York, and Esmond Mills, Inc., took his own life under mysterious circumstances recently. His body was found in a culvert beside a parkway in Cambridge, Mass.

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MEN WANTED

Positions Open

We can place: PLANT MANAGER, elastic silk and rayon fabrics; mgr, fabric glove plant; yarn supt, blended cotton and synthetic fibre yarns; worsted dress goods supt; filament rayon and cloth supt; worsted yarn supt; designer and cutter knitted sportswear.

OVERSEERS FOR FOLLOWING DEPTS: woolen worsted finishing; water-proofing and striping ducks and awnings; cotton yarn dyeing; rayon warp preparation; woolen and cotton carding; rayon-cotton weaving; cotton-rayon piece goods dyeing; shoddy carding; corduroy finishing; weaving, dressing and winding combined.

SENIOR and JUNIOR INDUSTRIAL ENGINEERS; machinery, chemical, dyestuffs and soap salesmen, northern and southern territories; experienced shoe thread salesman; time study engineers; rubber chemist.

SECOND HANDS FOR FOLLOWING DEPTS: rayon, warping and slashing; woolen and cotton dyeing; cotton carding and combing; cotton weaving.

HOSIERY FOREMAN-FIXER to install and start hosiery mill (So. Am.); knitting mach. fixers; garnett man; section hands worsted and cotton spinning and twisting, (south); loom fixers; textile school and technical graduates to learn textile mill business; expert Raschel mechanic; roller printers; sewing machine fixers; worsted dresser tenderi.

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Two technical service positions available with leading rayon yarn producer. One requires knowledge of weaving or allied processes; the other knowledge of hosiery or circular knitting production. Work will involve plant and customer contacts.

Applicants should be graduates of technical or general college with at least two years of practical experience. Confidences will be respected. Write in complete detail to

P-1480, Textile World
330 W. 42nd St., New York 18, N. Y.

WANTED
CHEMIST or CHEMICAL ENGINEER
By well-known Eastern manufacturer. Chemist or Chemical Engineer to control and develop cloth finishing. Textile finishing experience desired but would consider recent graduate.
P-1511, Textile World
330 West 42nd St., New York 18, N. Y.

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LANCASTER, ALLWINE & ROMMEL
Registered Patent Attorneys
Patent Practice before U. S. Patent Office, Validity and Infringement Investigations and Opinions. Booklet and form "Evidence of Conception" forwarded upon request.
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WANTED

CARDING OVERSEER

To work for nationally known company specializing in soft floor coverings. Applicant must have at least 8 years of actual experience in wool carding operations and must be capable of supervising and leading men. Person selected will be identified with a long successful company with every opportunity for individual effort and recognition. In letter of application list previous experience, education and essential personal data.

P-1373, Textile World
330 West 42nd St., New York 18, N. Y.

WANTED:

Experienced Dyestuff Chemist for laboratory of progressive diversified mill handling all fibers. Must be graduate of textile school or college.

P-1560, Textile World
330 W. 42nd St., New York 18, N. Y.

MACHINERY SALESMEN WANTED

Man with thorough knowledge of cotton manufacturing to solicit business for cotton textile machinery in Southern states. State age, qualifications, references and salary expected. Replies confidential.

SW-1422, Textile World
330 West 42nd St., New York 18, N. Y.

SALESMAN WANTED

Chemical Company wants a Top-Notch salesman with thorough knowledge of the Weaving and Throwing of Rayon and Acetate and Silk Fabrics. To solicit business on Sizing and Throwing Compounds. Preferably man with Chemical Background.

SW-9519, Textile World
330 West 42nd Street, New York 18, N. Y.

REPRESENTATIVES WANTED
Old established British Jacquard machine makers seek reliable live agent for sale of their products in the U. S. A. Only experienced firms having proved connection with Jacquard users need apply.
RW-1402, Textile World
Aldwych House
Aldwych, London W.C.2

WANTED
Assistant to Gen. Mgr.
Chain of Combed Yarn Mills. Wonderful Opportunity. Must have practical experience. College man around 35 preferred.
P-9859, Textile World
330 W. 42nd Street, New York 18, N. Y.

DYER WANTED

Completely new modern plant in Virginia has opening for a dyer experienced on viscose and acetate piece goods. State age, qualifications and salary expected.

P-9789, Textile World
330 W. 42nd Street, New York 18, N. Y.

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CHICAGO: 520 N. Michigan Ave. (11)
SAN FRANCISCO: 68 Post St. (4)

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WANTED—ASSISTANT Superintendent in a large dye and print plant doing a substantial yardage of plain dye work in silk and synthetics. Metropolitan area. Excellent opportunity. P-1453, Textile World.

OPENING FOR Superintendent of small colored goods spinning and weaving mill located in South. State experience, salary desired, references, etc. P-1358, Textile World.

POSITIONS WANTED

TEXTILE SCHOOL graduate, 20 years experience as foreman and superintendent in silk, rayon and cotton wishes position in Phila. or vicinity. PW-8007, Textile World.

(Continued on page 272)

CONTROLLER

Having broad experience in varied industries particularly in textiles, thoroughly versed in general and cost accounting, office-management, experienced in standard cost installations, credits, insurance, and thoroughly versed in administrative functions.

Desires contact with a sound organization where outstanding effort will be recognized and appreciated. Past record is excellent. Congenial, personable, intelligent—strong assets for good organization. Capable, thoroughly versed in federal and state taxes. Desires location in North Carolina or Far West but will accept assignment any location under reasonable conditions.

PW-1265, Textile World
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Textile school graduate, 20 yrs. diversified experience on rayons, silks, cottons. High efficiency—low cost operator. Excellent labor relations and references. Interested only in steady position with reliable firm.

PW 1323, Textile World
330 W. 42nd St., New York 18, N. Y.

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WANTS POSITION WITH PROGRESSIVE FIRM

Good Background. Best of Reference.
Years of successful experience in the Manufacturing of Filament and Spun Synthetic Fabrics.
Specialist in Fancy Fabrics from Designing To Economic Production.

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Of large European Textile Printing and Finishing Plant desirous of locating overseas. Expert colorist versed in all phases of roller and screen printing. 20 years experience. Highest references.

P. W. 1433, Textile World
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DYEING and PRINTING. FULLY EXPERIENCED ALL PHASES PRODUCTION — QUALITY, COSTS and LABOR MANAGEMENT. SEEKS CONNECTION WITH RESPONSIBLE CONCERN.

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330 West 42nd St., New York 18, N. Y.

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Distributor and manufacturer having sales organization actively covering entire southern textile industry desires an additional line of equipment or material to sell in that area.

RA-1310, Textile World
330 West 42nd St., New York 18, N. Y.

MAKING TEXTILE HISTORY

Samuel Crompton, who perfected the yarn-spinning mule, was so shy that once, when a foreign Count called to see him on business, he hid under the bed rather than receive him. If you're "shy" about buying Used Textile Machinery — remember you can depend on ◂MLC▸ "Certified" offerings for full-count VALUE, at "bedrock" prices.

"CERTIFIED" MLC OPPORTUNITIES

50—39" Draper Model X Looms
100—40" Draper Model E Auto. Looms, with roller tops or dobbies
100—42" Draper Model K Auto. Looms, with roller tops or dobbies
50—42" Draper Model E Auto. Rayon Looms
100—50" Draper Model XD Looms, 20 harness dobbies
8—55" R.S. Draper Model K Auto. Looms, 25 harness Double Index Dobbies
38—Loom Mill, 54" and 56" wide Draper Automatics
20—64" Draper Model D Looms, 16 harness Gem heads
40—80" Draper Model L Looms
40—40" B.S. C&K 4 harness Cam Terry Towel Looms
4—42" R.S. C&K 4x1 Auto. Looms
1—48" C&K 4x4 Box Loom, 25 harness
16—50"-52" R.S. C&K 4x4 Box Looms, 600 hook double lift jacquards
100—54" B.S. C&K S-5 2x1 Auto. Looms, 20 harness
150—54" B.S. C&K C-6 Looms, 25 harness double index dobbies
120—54" R.S. C&K 2x1 Auto. Silk Looms, 16 harness
20—54" C&K 4x4 Box Looms with 16 harness, also 600 hook Jacquards
15—54½" R.S. C&K 2x1 and 4x1 Non-Auto. Looms, 20 harness
35—56" C&K S-3, 2x1 Automatic Shuttle Changing Looms, 20 and 24 harn.

9—56" R.S. C&K 4x1 Box Looms, 20 harness, double multipliers, with 600 hook double lift Jacquards
75—56" R.S. C&K 2x1 Non-Automatic Looms, 20 harness
4—58" R.S. C&K 4x1 Automatic Looms
16—58" B.S. C&K 2x1, 4 harness Cam Turkish Towel Looms
3—60" R.S. C&K 4x1 Box Looms, 20 harness dobbies, 1304 hook Hatton Jacquards
12—64" R.S. C&K 4x1 Automatic Looms
14—68" C&K C-4, 1949 Model, Automatic Convertible Looms, 20 harness intermediate head motions, motorized
8—72" C&K W-3, 4x1 Automatic Looms, 28 harness, with 1300 hook double lift Jacquards
16—72" C&K 4x4 Paper Looms, 25 harness Cassimere heads
2—74" R.S. C&K 1x1 Heavy Duck Looms
2—76" C&K 4x4 Box Looms, 25 harness, double multipliers
24—78" B.S. C&K 4x1 Auto. Looms, 20 harness double index dobbies
12—82" C&K 4x1 Automatic Looms, 25 harness, motor driven
14—82" C&K 2x1 Automatic 8 harness Cam Looms, motor driven
8—100" C&K 2x2 Automatic Looms, 25 harness, with Baker 3-mix attachments
6—110" C&K 4x4 Box Looms, 25 harness

2—17" 2-roll Batchers with cut-off knives
1—70" King & Gerber Cloth Beamer
1—60" V. Vt. 4-roll Hydraulic Silk and Rayon Calender
1—Set 9—50" Tinned Iron Dry Cans with ceiling folder
1—Set 7-44" Tinned Iron Dry Cans with ceiling folder
1—Set 44—108" Copper Dry Cans, vertical frames
1—50" 4-tier National Dryer
1—Proctor & Schwartz 1940, 73" roller type Dryer
2—48" V. Vt. S/S lined Dye Jiggers
3—52" Werner S/S lined Dye Jiggers
14—18", 26", 32", 40", 54", 60" Extractors
1—44" 2-roll Padder
4—45" two and three roll Padders
1—50" 2-roll Padder
1—76" 3-roll Padder
1—58" James Barrett 4-color Printing Machine
2—2-roll starch Mangles, one 42", one 44"
1—60" Butterworth Clip Tenter Frame, brass top opening clips
1—60" 2-cylinder Back Filler
1—36" Chenille Cutting Machine with Blower and dust collector
5—C&K Reversible Flock Cutters
1—65" C&M Dewing Machine

1—72" C&M 2-cylinder Brushing Machine
1—80" Butterworth 7-roll Hydraulic Calender
1—Sargent Yarn Conditioning Machine
1—60" Windle 3-C Doubling, Boarding and Measuring Machine
6—Luther 2 and 3 brush Thread Dressing Machines
1—Philadelphia Dryer for skeins and tubes
1—90" Kenyon Return Tenter Dryer, 120 yd. capacity
1—60"x30" Heathcote Pin Dryer, 95 yd. cap.
1—60" Hunter S/S lined Piece Dyeing Machine
1—63" Textile 4-burner Gas Singer
1—64" P&W Ceiling Type Measuring Perch with 100 yd. dial
6—52", 60", 65" Gessner & Voelker Double Bed Rotary Cloth Presses
10—60", 66", 76", 80" Single and Double Blade Cloth Shears

Complete Drapery Jacquard Mill With
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1—Murray Cleaner
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1—32" S&F Mixing Picker
1—40" Schofield Box Duster with fan
1—48" Sargent Double Cylinder Burr Picker
1—80" S&F Iron Cone Duster with condenser
1—Buffalo Size 4½ Conoidal Fan with motor and unit heater
1—Kitson Hopper Feeder with extended apron and D&B Vertical Opener
1—40" D&B Picker with feed apron, automatic feeder, two porcupine beaters, eveners, etc.
2—40" H&B (1926) Single Process Pickers, 3 beaters
1—54" D&F Fearnaught Mixing Picker
1—21" Dodge Rag Picker
1—54x60 D&F 2-cyl. Shoddy Card with automatic feeder
1—60" Whitin Cashico 3-cyl. Card, 54" dia., auto. feeder, Broadband intermediate feed, Whitin 4-bank tape condenser, 96 ends.
3—48" Barker 2-bank Condensers
6—8 head Whitin Model D-2 Combers with Roth aspirators,, 10" coilers, with one ribbon lapper, one sliver lapper

2—120 spindle 10x5 Saco Lowell 1948 Slubbers with FS-1 Drafting System
12—276 sp. Saco Lowell 1949 Model 38, 1¾" ring, 3½" gauge Long Draft Spinners
10—264 sp. Saco Lowell 1947 Model 38, 2½" ring, 3½" gauge Long Draft Spinners
32—284 sp. Whitin 3¼" gauge Tape Drive Spinners, with S-L Z-2 Long Draft
1—192 sp. Whitin Large Package Model F, 1926 Tape Drive Spinning Frame, 2¼" ring, 5" gauge
1—180 sp. Draper 2¼" ring, 3½" gauge Wet Twisters
1—144 sp. Whitin 3" ring, 4½" gauge Wet Twister

1—30 sp. Lazenby Model T-Jr. right hand Cop and Butt Winder
1—80 sp. Foster Skein to Cone Winder with waxing attachment
1—84 sp. Foster Model 101 Cardboard Coner
6—100 sp. Foster Model 12 and 21A Tube and Cone Winders
5—140 sp. Barber Colman Model KK, 1926, Automatic Spoolers, motor driven
3—5¾" Barber Colman 1926 High Speed Warpers with 432 end creels
1—Barber Colman 5E Stationary Type Warp Tying-In Machine
1—40 sp. Barber Colman Tailing Machine, motor driven
4—82", 92", 96", D&F Warpers with creel, neck reed, back stand, beamer and compressors

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40—Lowell 40" Cards, 24" doffers, w/continuous strippers
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6—Kitson Finisher Pickers W/16" carding beaters
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1—Saco-Lowell Lattice Opener, Model #12
58—Lowell Spinning Frames, 208 sp, 2¾" ga. band drive
16—Saco-Lowell Spinning Frames, 216 sp, 3" ga. band drive
8—Whitin Spinning Frames, 204 sp, 3¼" ga. band drive
1—Superior Vertical Cleaner, 6 beater
26—Whitin Drawing Frames, 5 del, metallic top
1—D&F Fearnaught Mixing Picker, 54"
4—H&B Roving Frames, 10x5, 106 sp.
2—Saco-Lowell Roving Frames, 12x6, 68 sp.
2—Tape Condensers 60", 6 spool, 20 ends

SLASHING, WARPING AND WINDING

2—Saco-Lowell 2 cyl. slashers, 5' & 7' w/size vats
1—Lowell Slasher, 2 cyl, 5' & 7', 63" width
1—Saco-Lowell Slasher, 3 cyl, 84" width
3—B.C. Warpers, high speed, 54½" width, 432 end creel
1—Entwistle Warper, high speed, 54½" width, year —1943, motor, no creel
1—Riener Ribbon Warper, 21" spread, age—1946
1—Foster Model 102 Winder, 100 sp, 4" traverse
2—Foster Model 101 Winders, 80 sp, 7" traverse, cones
9—Atwood 5B Doublers, 84 sp, w/motor
4—Universal #50 Winders, 6 sp, L drive, bunch builders

COMPLETE MILLS

Fine Cotton Cloth Mill—30,000 spdls, 1000 looms
Cotton Print Cloth Mill—20,000 spdls, 427 looms
Cotton Yarn Dyeing Plant
Cotton Yarn Mill—10,000 spdls.
Cotton Printing Plant
Cotton Bleaching & Mercerizing Plant
Rayon Printing & Finishing Plant
Rayon Dyeing & Finishing Plant
Rayon Throwing Plant
Bradford Worsted Yarn Mill—1000 spdls.
Woolen Yarn Mill—12,000 spdls.
Worsted Weaving Plant—24 looms

LOOMS

572—C&K 40" cloth, 4x1 box, "Cotton Kings", w/ motors
124—C&K 50" cloth, 4x1 box, "Cotton Kings", w/ motors
350—C&K 40" cloth, 4x1 box, Gingham, w/motors
80—Draper Model K, 42" cloth, dobby w/motors
300—C&K 85 52" cloth, 2x1, w/motor
130—C&K C6 54", 4x1 box, 28 harness
150—Draper XD 50" auto, w/motor
50—Draper Model X, 43" reed space, w/motor
100—C&K 52", non-auto, 2x1 box, 20 harness

PRINT MACHINES 4-6-8-10-12 COLORS

800—Stafford A-1 auto dobby, 42" w/motors
287—Draper Model E, 52" cloth
35—Draper Model E, 60" cloth
102—Draper, Modified D, 60" cloth

DYEING AND FINISHING

2—Abington Yarn Dye Machine—500 lb. cap.
3—Obermeier Yarn Dye Machines, stainless steel, 500 lbs. cap—1946
1—National Tray Dryer, 2000 lbs. cap. with motors
1—Set copper dry cans, 54 cans, 60" width, bucket
1—V.V. Singer, 60" cloth, 4 burners
1—Open Soaper—66" width, 10 tanks
1—Winsor & Jerauld Tenter Frame 50'x60"
2—Copper Jacketed Mixing Kettles, agitator
1—Set copper dry cans 8 vertical stack, 72" wide
2—Woonsocket Nappers 80", 36 roll, double-acting
1—Mercerizing Range—60" cloth width—complete w/tanks, mangles, and tenter frame
1—Butterworth Calender, 2 husk rolls, 2 steel rolls, 42" cloth width
1—Morrison Calender, 1 steel roll, 2 wool & paper rolls, 50" cloth width
1—P&W Decatizer 42" width with blanket & motor
1—King & Gerber Embossing Calender, 54" face, 2 rolls
1—Hydraulic Mangle, 3 rolls—1 steel, 2 rubber, 72" face w/guiders & motor
1—Tolhurst Extractor, 60" w/15 h.p. motor
1—Padder, mangle type, lever & set 54" cloth, scutcher & 10 hp motor
1—Acid Ager—30' L x 5' W x 10' H, cast iron

REMEMBER ... Republic Textile EQUIPMENT COMPANY
40 WORTH STREET NEW YORK CITY
Purchase and Sale of Used Machinery
REFINANCING • APPRAISALS • PURCHASE • SALE • LIQUIDATION OF MILL PROPERTIES

POSITIONS WANTED

(Continued from page 270)

MANAGER OR General Superintendent Available. Full and complete knowledge in the manufacture of Filament, Spun rayon bends and also cotton fabrics of a broad nature including carding, spinning, designing, weaving and finishing. Have excellent record and references of ability and character. American, speaks Spanish. Will go anywhere. PW-1268, Textile World.

MASTER DYER, 30 years practical experience, all classes of textile fibres and fabrics, will consider position as dyer or spot of importance, sales or demonstrating processing of dyes and chemicals. PW-1322, Textile World.

OVERSEER WEAVING — experience on plastics, wool, and worsted and other fibers. Thorough knowledge of C&K W-2, W-3 looms. Good references. Locate anywhere. PW-1879, Textile World.

SPECIAL SERVICE

EXECUTIVE ENGINEER American specialist in Textile and Knitting Machines leaving for England, France, Switzerland, Austria beginning 1950. Will execute business and technical commissions. Highest references to be exchanged. SS-1312, Textile World.

WANTED

Large engineering firm wishes to acquire several complete textile plants through purchase of (1) capital stock, (2) assets, (3) machinery and equipment, whole or in part. Personnel retained where possible, strictest confidence.

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FOR SALE

1—D & F 36 roll Double Acting Napper, motor driven
1—Sargent 36" Multiplex Burr Picker
1—Whitin Long Chain Quiller, 378 spindles
1—D & F 110" Pin Type Dressing Reel, complete with Beamer, Hack Stand, Neck Reed, Compressor and Jack Spool Stand
6—E & B (Carpenter) Skein Reels
2—Toledo 62½ lbs. capacity Lap Scales
2—Foster Model #102 Winders, 100 spindles ea., 7" traverse
6—Entwistle 30" Traverse Balling Heads
2—Cocker High Speed Beam Warpers with 800 end Magazine Cone Creels

We solicit your inquiries on thoroughly rebuilt Universal and Foster Winders.

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MACHINERY AVAILABLE FROM OUR STOCK:

5—90" Tenters, 4 Straight, 1—Swing, 4—W&J 50". 1—Butterworth Swing.
2—2 Roll Batchers 65" Wide Steel Rolls.
1—2 Roll Batchers 50" Wide Wood Rolls
1—2 Roll Batchers 61" Wide Wood Rolls.
3—50" Compensators, 3 Rolls Each.
3—Pair T.F.M.G. Co. Electric Guiders
3—Sets of Steel Cans 60" Wide.
1—40" Scutcher
2—Schwartz Guides (Electric)
1—44" Hydraulic Butterworth Calender, 1 Cotton, 1 Steel Bowl, Pump & Accum.
8—St. Steel Tanks 32" x 36"
2—40" Mangles, 2 Rolls.
1—45" Mangle, 3 Rolls, 14" Diam.
1—52" Mangle, 2 Rolls, 1—18" Dia., 1—16" Dia.
1—62" Mangle, 2 Rolls, 1—10" Dia., 1—18" Dia.
1—45" Padder, 2 Rubber Rolls, 55 Dye Pan.
1—A&G Housing for 50" Tenter.
1—A & G Housing for 90" Tenter.
1—20' Ager 50" Face Rolls, Complete with Speed Reducer, Steam Exhauster and Plaiter.
16—BTA Gen. El. Motors from 5 H.P. to 35 H.P. Complete.
1—Continuous 8 Beam Progressive Jig for Caustic Treatment, with Air Controlled Heavy Squeezer.

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Additional Wanted Ads on page 278

Executive Offices and New York Warehouse

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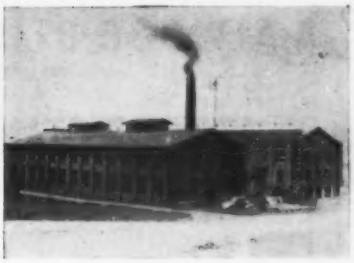

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1 BRUSH 2 roll 66"
1 CALENDER ROLLING HEAD 48"
1 CALENDER FRICTION 3 roll 43½"
1 CALENDER HYDRAULIC 4 roll 50"
1 CRABB 4 bowl 66"
1 DECATUR 72", pump, motors and blanket
1 DEWING MACHINE 66", pump, copper feed tank and drain trough
4 DOUBLING WINDING & MEASURING MACHINES 60"-66"-72"-80"
1 CAN DRYER 7 SS cans 50x23
1 CAN DRYER 6 copper cans 72x36
1 CAN DRYER 21 steel cans 74x23
1 DRYER LOOP revolving stick 80"
1 DRYER PIN 5 pass 72"
1 DRYER PIN 5 pass 84"
1 DRYER RAW STOCK 72" with automatic feeder
1 RAW STOCK DYEING UNIT Cypress vats 675 lb. capacity
1 DYE KETTLE enclosed SS 6'
1 PACKAGE DYEING UNIT 300 lbs.
2 EXTRACTORS 72" copper baskets underneath motor drive
1 EXTRACTOR 96" copper basket underneath motor drive
5 FOLDERS 1 yard 36"-40"-50"-58"-60"
3 FULLING MILLS double compartment, lag rolls 10"x19" dia.
3 INSPECTING MACHINES 60"-64"-100" forward and reverse motions
8 JIGGS 50" metal lined boxes
3 MEASURING MACHINES 66" with dials
3 MIXING KETTLES copper jacketed tilting type 40-50-80 gal. units
1 NAPPER 72" S.A. 12 roll, clothed
1 NAPPER 80" D.A. 18 roll, clothed
1 NAPPER 80" BB D.A. 24 roll, clothed
2 NAPPERS 84" BB D.A. 24 roll, clothed
1 NAPPER 90" BB S.A. 20 roll
2 NAPPERS 90" D.A. 36 roll
5 POWER PERCHES 66-72" roll, motors and reducers
1 PALMER-TENTER-QUETCH unit BB 60"
5 THREAD POLISHING UNITS 2 brush 38"
1 THREAD POLISHING UNIT 3 brush 38"
2 ROTARY STEAM PRESSES double bed 68"-82"
3 PRINTING MACHINES 4 color 42"
1 QUETCH 2 roll BB 60"
1 REEVES DRIVE #3 enclosed
8 SEWING MACHINES, rotary foot power
1 SEWING MACHINE, rotary Merrow head mtrzd.
4 SEWING MACHINES, railway portable 50"-52"-58"-60"
1 SEWING MACHINE, railway portable Merrow head mtrzd.
1 SCOURING RAW STOCK UNIT 4 bowl 36" with dryer
1 SCOURING RAW STOCK UNIT 5 bowl 54" with dryer
1 SCUTCHER 72", batters, scroll rolls and detwister
1 SHEAR 4 blade 60"
3 SHEARS single blade 60"-63"-66"
2 SHEARS double blade 66" factory reconditioned cutting parts
2 SHEARS 66" double blade list saving rests, factory reconditioned cutting parts
1 STEAMING-SHEARING AND BRUSHING MACHINE 4 sets of cutting parts list saving rests, hooked in tandem
1 SLASHER 3 can 57" size box and mixing kettle
1 TENTER FRAME CLIP 60'x60"
1 TENTER FRAME CLIP 80'x80"
1 TENTER FRAME PIN 60'x72"
2 WASHERS ROPE 6' rebuilt boxes

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5 M-8-¾ automatic bobbins like new
3 IRON WOOL CARDS 48x60 fully clothed 80 end condensers
3 TAPE CONDENSERS BB eccentrics 48" for 96 ends
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1 FEED, CARD 60" with weighing pan
3 GARNETTS 3 cyl. 20x60 with lappers
2 GRINDERS 48" traverse type
1 GRINDER FLOOR FRAME 48" with traverse grinder
8 MULES GP 320 spindles ea. 3" gauge
3 MULES 320 spindles ea. 2" gauge
2 WOOL OPENERS double cylinder units 48"x36" dia.
1 PICKER, MIXING 6 bar 36" feed table
1 PICKER, FEARNAUGHT 40x48" dia. automatic hopper feed
1 PICKER, FEARNAUGHT 48x48" dia. automatic hopper feed
4 SPINNING FRAMES WOOL 180-192 spindles 3" ring 4½" gauge
4 SPINNING FRAMES CAP 200 spindles ea. 3½" gauge
2 SPINNING FRAMES WOOL Model E 120 spindles each 5" ring
3 TWISTERS 60 spindles ea. 4" ring
8 TWISTERS 96 spindles ea. 4" ring
2 TWISTERS 108 spindles ea. 6" ring
4 WARPERS PIN TYPE 110" beamers and compressers
1 WINDER DOUBLER Model 25, 60 spindle
1 WINDER Model 101 paper cones, 100 spindle
1 WINDER Model 30 combination cones and tubes 100 spindles
1 WINDER COP 30 spindle automatic, cops 12"x1¾"
2 WINDERS 40 spindles each using wood bottle bobbins 17"
2 WINDERS ABBOTT Model 64 paper cone 80 spindles ea.
300 DRAPER "E" 40" belt driven
58 DRAPER "X" 59" 6 harness mtrzd.
16 DRAPER "K" 40", 25 harness mtrzd.
200 DRAPER "XD" 50", 20 harness mtrzd.
8 DRAPER "K" 50", 25 harness mtrzd.
24 DRAPER "D" 60", 20 harness, mtrzd.
24 DRAPER "D" 66", 4 harness mtrzd.
187 C&K—C-6 49", 25 harness mtrzd.
60 C&K—S-3 50", 25 harness mtrzd.
48 C&K—S-3 58", 25 harness mtrzd.
100 C&K—S-5 54", 20 harness mtrzd.
12 C&K 64", 4x1, 25 harness mtrzd.
42 C&K 72", 4x1, 20 harness mtrzd.
12 C&K 72", 4x4, 25 harness mtrzd.
14 C&K 76", 4x4, 25 harness mtrzd.
28 C&K 82", 4x1, 25 harness mtrzd.
40 C&K 82", 2x1, 8 harness mtrzd.
12 C&K 82", 4x1, 25 harness mtrzd.
4 C&K 92", 4x1, 25 harness mtrzd.
4 C&K 110", 4x1, 25 harness mtrzd.
8 C&K 92", 4x4, 25 harness mtrzd.

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3 PHASE, 220-440 VOLTS, EXCELLENT BOBBIN EQUIPMENT

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1—Schofield 48" automatic Duster (box)
1—P. & S. 30" Ceiling Condenser
1—C. & M. 48" Fearnaught Mixing Picker
1—Schofield, Hard Waste Picker 18"x30"
1—Schoefield 42" Carding Rag Picker
1—D. & F. 48", 6 bar Mixing Picker
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1—Taylor - Wadsworth Backwasher and Dryer
1—Hunter 3 cyl. Garnett 30"x48"
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1—Hunter Needle Loom
2—Garnett Breasts, 16" x 60"

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3—J. & B. Jackwinders
2—C. L. No. 20 Hi-Speed Cop Winders
2—Worcester Warp Comp. Spoolers

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4—D. & F. or Altemus Warpers—rebuilt to order—82"—120"
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1—Globe Ball Warper
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4—C. & K. 82" 4x1 automatic Looms
12—C. & K. 82" (4x4 Box) Box Looms
2—L. & G. Chenile Cutters

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1—Woonsocket 90" D.A. Napper 24 rools
1—Gessner 72" D.A. Napper 24 rolls
1—Perkins Cloth Piler, 72" traverse
1—Hunter No. 10 Fulling Mill
1—Hunter 26 B Fulling Mill (New)
6—Tolhurst Mtr. Dr. Extractors 40"-96"
2—Fletcher Extractors 17"-48"
1—Butterworth Rope Squeezer
1—C. & M. 170" Rolling Teazel Gig
1—P. & W. 66" Double Shear
1—P. & W. 66" Plush Shear
1—Gessner 66" Heavy Duty Press
1—P. & W. 66" 4 cyl. Brush & Sander
2—Rope Soaping Machines
1—Yorkshire Crab 72"—3 bowl
1—P. & S. Truck Skein Dryer
1—P. & W. 66" Meas., roll., Doubler

MISCELLANEOUS
1—Brown Yarn Strength Tester

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A Complete Cotton Spinning and Weaving Unit

5—Whitin 40" Single Process Pickers, 1945 and 1946, as follows:

Unit #1

4—Whitin Blending Feeders, model N1, *1945*, 36", motor driven.
1—Whitin 24" Picker Feeder, model D, *1945*, motor driven.
1—Whitin Mixing Feed Table, model H, *1945*, 16" wide x 38' long, motor driven. Feeding to:
1—Whitin Buckley Spirawhirl Cleaner, model 42, *1945*, with cage section, motor driven. Feeding to:
1—Whitin Rake Distributor, model E, *1945*, 24" wide x 12' long, motor driven. Feeding to:
2—Whitin Single Process Pickers, *1946*, motor driven.
Note: All above units are synchronized and are fully automatic.

Unit #2

3—Whitin Blending Feeders, model N1, *1946*, 36", motor driven.
1—Whitin 24" Picker Feeder, model D, *1946*, motor driven.
1—Whitin Mixing Feed Table, model H, *1945*, 16" wide x 38' long, motor driven. Feeding to:
1—Whitin Buckley Spirawhirl Cleaner, model 42, *1946*, with cage section, motor driven. Feeding to:
1—Whitin Single Process Picker, *1946*, motor driven.
Note: All above units are synchronized and are fully automatic.

Units #3 and #4

2—Within Single Process Pickers, hand fed from floor above, *1945*.
5—Whitin Return Air Condensers, motor driven, *1945*, one for each line of picking.

CARDS

125—Whitin 40" Flat Cards, 12" coilers, 27 ' doffers, spindle backs, all right hand, Abington strippers.
1—Abington Card Stripping System, 2 receivers, 1 pump, *1947/48*.
3—Whitin 48" Full Roller Cards, double 12" coilers, Bramwell feeders, with weighing pans.

COMBING

11—Whitin Sliver Lap Machines, 20 ends, 9¾" lap.
11—Within Ribbon Lap Machines, 4 heads, 11¾" lap.
56—Whitin Combers, model D2 & C, 8 laps, belt driven.

DRAWING

216—Deliveries Whitin Drawing, 36 frames, 6 deliveries per frame, model F.

ROVING

8—Woonsocket 12 x 6 Slubbers, 72 spindles each.
2—Woonsocket 10 x 5 Intermediates, conventional draft, 102 spindles each.
28—Woonsocket 8 x 3½ Speeders, conventional draft, 160 spindles each.
54—Woonsocket 6 x 3 Jacks, 192 spindles each.
10—Woonsocket 6 x 2½ Jacks, 200 spindles each.

SPINNING

232—Whitin Tape Drive Spinning Frames, 3" gauge, 240 spindles each, 39" frames.
42—Whitin Band Drive Spinning Frames, 3" gauge, 240 spindles each, 1¾" and 2" rings.

TWISTING

4—Whitin Tape Drive Twisters, 4½" gauge, 3½" ring, 200 spindles each.
4—Whitin Tape Drive Twisters, 4½" gauge, 3½" ring, 160 spindles each.
8—Whitin Band Drive Twisters, 3½" gauge, 2¾" ring, 208 spindles each, beam creel.
14—Draper Band Drive Twisters, 3¼" gauge, 2⅜" ring, 220 spindles each, beam creel.
56—Draper Band Drive Twisters, 3" gauge, 240 spindles each, step creels. 21—2" rings, 35—2⅛" rings.

SPOOLING, WARPING, WINDING

2—Barber Colman Automatic Spoolers, *1947*, 306 spindles each, machines #1000 and #1033.
2—Barber Colman High Speed Warpers, magazine creels, *1947*, machines #575 and #448.
6—Ball Warping Attachments.
5—Universal #44 Roto Coners, 100 spindles each, winds to paper cones, waxing attachments. 3—*1942*, 2—*1941*.
33—#50 Universal Winders, 6 spindles each, 30—for paper tubes, 3—for paper cones.
24—#90 Universal Winders, bunch builders, underneath tensions, 20 spindles each.

SLASHING

1—Uxbridge "Gentle Air" Hot Air Slasher, model A, *1949*, Ser. #79, 72" headway, Brown moisture controls, recording temperature controls, moto-driven through Reeves drive.
2—Mixing Kettles, 42 x 42, copper lined, with agitators.
1—Storage Kettle, jacketed, 42 x 42, *1946*, with agitator.

LOOMS

250—40" Draper Model "K" Looms, 45" reed space, dobbies, motor driven.
50—42" Draper Model K" Looms, 47" reed space, Lacey tops, motor driven.
38—44" Draper Model "K" Looms, 49" reed space, Lacey tops, motor driven.
80—62" Draper Model "K" Looms, 67" reed space, dobbies, motor driven.

TYING-IN MACHINES

3—Barber Colman Portable Tying-in Machines, model LC.

CLOTH ROOM

2—Curtis and Marble Cloth Folders, 1—70½", 1—43½".

MISCELLANEOUS

3—Terrell, type K, Filling Bobbin Strippers, motor driven.
2—HW Yarn Conditioners, types ST-FO-663, *1942*.

Scales, laboratory equipment, complete machine shop and carpenter shop, trucks, roving cans, bobbins, skewers, motors, belting, blowers, humidification equipment.

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1—44" Schreiner 3 roll, pump accumulator
1—49½" Butterworth, 2 paper 1 husk rolls
1—50" Butterworth, 2 wool paper 1 steel rolls
1—50" Textile Fin. 5 roll, belt driven
1—54" Goods King & Gerber Embossing, Mtr.
1—55" Heim 5 Bowl, 2 steel 3 paper rolls
1—56" Embossing Machine with Mtr. 2 roll
1—60" Butterworth 3 roll Hydro 78 ton
1—72" Textile Fin. 2 roll embossing, mtr.
1—18" Henniken 3 roll ribbon moire machine
1—24" Ribbon Finishing Machine, VV.

DRY CAN SETS

30 x 39" ..... 5 cans	23 x 66" ..... 31 cans
23 x 44" ..... 37 cans	23 x 72" ..... 15 cans
23 x 45" ..... 42 cans	23 x 90" ..... 39 cans
23 x 45" ..... 33 cans	30 x 100" ..... 33 cans
22 x 50" ..... 5 cans	23 x 100" ..... 39 cans
23 x 50" ..... 7 cans	23 x 105" ..... 23 cans
23 x 50" ..... 45 cans	23 x 109" ..... 45 cans
23 x 56" ..... 16 cans	23 x 132" ..... 39 cans
23 x 60" ..... 24 cans	23 x 142" ..... 17 cans

DYEING & FINISHING

1—DECATER, SEMI VV 58" face, pump, mtr.
1—DRYER, SKEIN P&S 4 unit type, mtrs.
1—DRYER, CLOTH Heatlcote Horiz. to 64"
1—DRYER, P&S Multi-pass 15 passes, fans
1—DYE BECK, Hunt 20" all SS self supporting
4—DYE JIGGS SS lined Morrison, 60" mtr. dry.
12—DYE JIGGS SS lined Morrison, 50" mtr. dry.
2—EXTRACTORS 60" one SS, one copper, mtrs.
4—EXTRACTORS 48" S-U, Tolhurst, copper
1—MANGLE 72" 3 roll hydro. pump, accum.
1—MANGLE 50" 2 roll rubber, guilders etc.
1—MERCERIZER 60" Morrison with tenter
10—NAPPERS 36 roll Woonsocket 80" double act.
PADDERS 44", 50", 60", 65" 2 rub. rolls ea.
1—PALMER 64" face x 6" dia. complete
3—PRINTING Machines, Textile 4 color 42" face
1—PRINTING Machine RBF, 60" S color complete
1—QUETSCH 54" 2 roll, guiders, SS rub, mtr.
SINGERS, 2, 4, and 8 burner, to 72"
1—SCOURING TRAIN 5 bowl 11 passes
5—SQUEEZE ROLL Sets, 50" face
5—SQUEEZE ROLL Sets, 2 roll rope sets 20" dia.
1—TENTER FRAME 90" x 50" with 2/5 clip.
1—TENTER 30' x 48" W&J, batcher, mtr. dry.
1—PIN TENTER & DRYER, 24" to 156" max. 97"
1—WASHER, 2 iron bowls 40" x 56" x 44", 3 passes each, 50" face

LOOMS

100—52" RS Draper Model E 4 harn. Cam
200—52" RS C&K 2x1 auto. with mtrs.
34—56" RS C&K S-6 with dobbies, mtrs.
150—57" RS "XD" Looms complete, dobbies
100—58" RS C&K Cotton King EWSM, mtrs.
24—60" RS C&K C-4 Gem Head year 1949
24—72" RS "XD" 20 harness dobbies and 600 hook jacquards, mtrs.
8—72" RS W-3 25 harn. Gem Head ext. shaft
24—72" RS C&K 4x1 Auto. 20 harness Gem, Head rebuilt by C&K in 1946
66—72" RS C&K 4x4 1300 H. Jacq. large boxes
48—82" RS Auto. Draper Looms with dobbies
12—82" RS C&K 4x1 Auto. with mtrs.
24—92" RS C&K 4x1 Auto. with mtrs.

MISCELLANEOUS

1—AGER 60" Face 12' x 10'6"; copper rolls
1—TOWER AGER 68" face 78" wide x 62" deep
1—BATCHER 60" 2 roll vari speed, measure
10—FLAT FOLDERS 42" to 62" pneumatic lifts
1—Ceiling SWING FOLDER 60" with mtr.
1—INSPECTING & BATCHING MACHINES 50", 52", 64", 66"
3—TUBERS, VV 50", 54", 60" measure dev.

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1—Textile Machine Ager, 30' long, M.D.
4—RH 12' dye boxes, S.S. (1948)
1—Morrison 10 string & 1—4 string due box S.S.
3—Whitin high speed Tricot machines, 168".
1—set of 7 new dry cans, S.S. 50".
1—Perkins hydraulic calender, 60", 100 ton.
1—W&J tenter frame, 90'L. 80"W. S.S. plates, M.D.

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1—P&W Rolling & Folding machine 80" (1947)
1—P&W Doubler & Folder, 54" (new)
4—Morrison Jiggs, S.S., 50"
4—V.V. Jiggs, S.S., 60"
1—Morrison Simplex Sanforizer, 50".

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1—New 64" Beamer for Dye House, M.D.
1—60" V. V. Tubing & Doubling, M.D.
1—50"-2 Roll Padder, M.D., 18" Dia.
4—Meas. & Inspection Machines, M.D.
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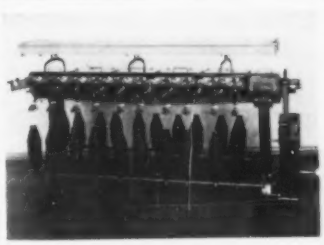

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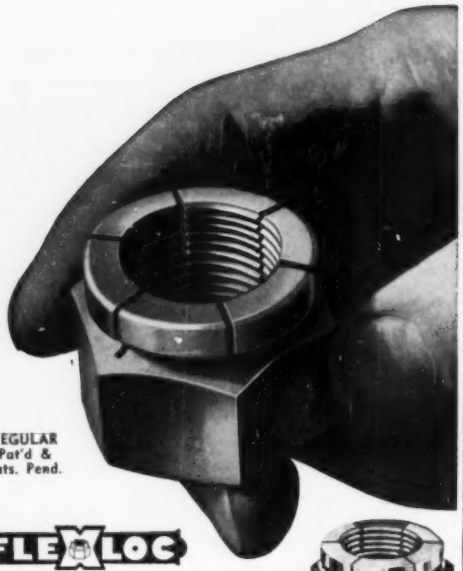

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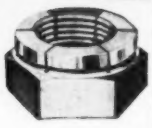

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INDEX TO ADVERTISERS

An * indicates additional data in the 1948/49 Pre-Filed Textile Catalogs and Textile World Yearbook

*Abbott Machine Co. 140
Acme Knitting Mach. & Needle Co. 253
Aldon Spinning Mills 251
Alemite Div., Stewart Warner Corp. 148
Allen Bradley Mfg. Co. Inside Back Cover
*Allen Co. 263
*Allis-Chalmers Mfg. Co. 98, 99
Aluminum Co. of America 51
Amercoat Div., American Pipe & Construction Co. 85
American Air Filter Co., Inc. 194
American Pulley Co. 210
American Steel & Wire Co. 79
American Viscose Corp. 189
American Woolen Co. 253
American Yarn & Processing Co. 266
Arkansas Co., Inc. 134
Armco Steel Co. 87
Armour & Co. 52
*Armstrong Cork Co. 42, 43, 155
*Ashworth Bros., Inc. 46
Atkinson, Haserick & Co. 22, 23
Atlantic Rayon Corp. 242

*Bailey, Frank 247
*Barber Colman Co., Temperature Control 18
Textile Div. 261
Barco Mfg. Co. 221
Barnes Textile Associates, Inc. 262
Bemis Bro. Bag Co. 244
Bijur Lubricating Co. 186
*Blickman Inc., S. 235
Boger & Crawford 38
*Booth Co., Benj. 204
Borne Scrymser Co. 245
Brosites Machine Co. 224
Buensod-Stacey, Inc. 193
*Butterworth & Sons Co., H. W. 130

*Caldwell Co., W. E. 247
Cameron Machine Co. 239
Carbomatic Corp. 249
Carnegie-Illinois Steel Co. 79
*Carter Traveler Co., Div., A. B. Carter, Inc. 281
Celanese Corp. of America 219
Century Electric Co. 55
*Chicago Pneumatic Tool Co. 96
Ciba Co. 201
Clark Mfg. Co. 266
Cleaver-Brooks Co. 157
Cleveland Tramrail Div., The Cleveland Crane & Eng'g Co. 76
Clinton Industries, Inc. 195
Clipper Belt Lacer Co. 249
*Cole Mfg. Co., R. D. 222
Columbia University Press 228
Columbia Steel Co. 79
Container Corp. of America 71
Continental Can Co. 30
*Crabb & Co., Wm. 234
*Crane Co. 78
*Crane Mfg. Co. 230
*Crompton Knowles Loom Wks. 69
Crouse-Hinds Co. 177
*Curtis & Marble Machine Co. 220
Cutler-Hammer, Inc. 75
Czechoslovak Metal & Eng'g Wks. 216

Dana Warp Mills 251
Darnell Corp., Ltd. 214
*Dary Ring Traveler Co. 246
Davis & Furber Machine Co. 12
Day-Brite Lighting, Inc. 173
Diastafor Div., Standard Brands, Inc. 31
*Dinsmore Mfg. Co. 255
*Dommerich & Co., L. F. 72
Dow Chemical Co., Dowicides 146
Methocel 136
Dow Corning Corp. 252
*Draper Corporation 1
Drobile, Albert W. 269
Dronsfield Bros., Ltd. 241
*DuPont de Nemours & Co., Electrochemical Dept. 231
Ludox 205
Rayon Multiple Fibers 8, 9

*Economy Baler Co. 257
Edmos Products Corp. 217
Emery Industries, Inc. 199
Eriez Mfg. Co. 37

Falls Yarn Mills 226
Foxboro Co. 90
Fries Instrument Div., Bendix Aviation Corp. 196
Fuller Brush Co. 163

Gaylord Container Corp. 89
General Electric Co., Apparatus Dept. 28, 29, 61, 264
Globe Dye Works 212
Goodrich Chemical Co., B. F. 32
Goodyear Tire & Rubber Co. 13
Gulf Oil Corp.—Gulf Refining Co. 49

*H & B American Machine Co. 48
*Hayes Industries, Inc. 16
Heim Co. 247
Heineman Corp., O. Div., of Aetna Industrial Corp. 264
Hemphill Co. 175
Henderson Fdry. & Mach. Co., Div. Southern States Equip. Co. 93
Hewson Co., J. 267
Hibbert & Co., Ltd., J. 26
Hinnekens Machine Co. 58
Holdsworth Gill Screw Co. 23
Houghton & Co., E. F. 47
*Howard Bros. Mfg. Co. 40
Hubinger Co. 228
*Hunt Machine Co., Rodney 53, 54
*Hunter Machine Co., Jas. 207
*Huyck & Sons, F. C. 260
Hyster Co. 59

*Industrial Heat Eng'g Co. 224
International Business Mach. Corp. 34
International Nickel Co. 88
International Salt Co., Inc. 66
*Ives Co., L. T. 255

Jenkins Bros. 68
*Jenkins Sons, M. W. 192
Jiffy Textile Marker Co. 268
Johnson, Chas. B. 153
*Johnson Corp. 41

Kearny Mfg. Co. 268
*Kenyon & Son, D. R. 245
Kidde & Co., Inc., W. 225
*Kohorn & Co., Ltd., O. 10
Kovo, Ltd. 216

Lacy, Atherton & Davis 269
*Lambeth Rope Corp. 245
Laminated Sheet Prod. Corp. 265
*Lane Bros. Inc., W. T. 257
Lazenby & Co., F. A. 226
Leatex Chemical Co. 228
Leighton Machine Co. 208
Lewellen Mfg. Co. 249
*Link-Belt Co. 7
Lockwood Greene Engineers, Inc. 265
*Loper Co., Ralph E. 266
Lubriplate Div., Fiske Bros. Refining Co. 267

Macbeth Corp. 239
Machinecraft, Inc. 237
Manheim Mfg. & Belting Co. 84
Manton Gaulin Mfg. Co., Inc. 191
Maple Flooring Mfgrs. Assn. 200
Marshall & Williams Corp. 195
McGraw-Hill Catalog Service 228
*Meadows Mfg. Co. 33
Mellor, Bromley & Co., Ltd. 230
Merrow Machine Co. 253
Micro-Lite Co., Inc. 232
Miller Motor Co. 198
Minneapolis Honeywell Regulator Co., Brown Instrument Div. 80
Mobilift Corp. 86
Moisture Regiater Co. 257
*Monsanto Chemical Co., Merrimac Div. 94, 95
Phosphate Div. 159

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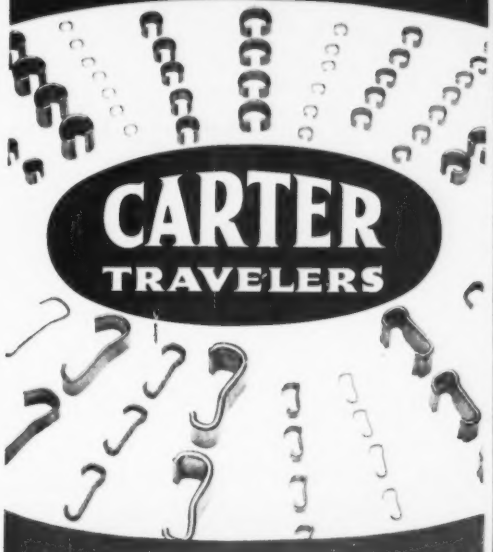

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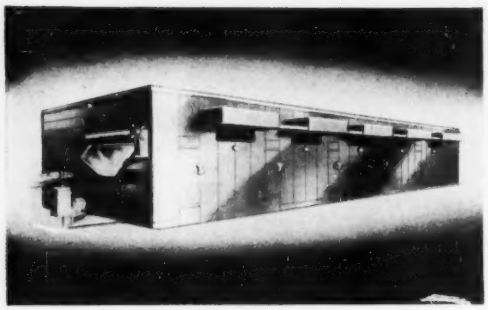

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*Mt. Hope Machy. Co. 191
*Murdock & Geb Co. 251

*National Aniline Div., Allied Chem. & Dye Corp. 35
*National Drying Mach. Co. 282
National Lead Co. 74
*National Ring Traveler Co. 251
National Tube Co. 79
New Departure Div., General Motors 15
N. Y. & N. J. Lubricant Co. 138
Nopco Chemical Co. 50

*Oakite Products, Inc. 235
Owens-Corning Fiberglas Corp. 179

Pabst Sales Co. 254
Paddock Co., J. C. 216
*Page Madden Co. 218
Palm Beach County Resource Development Board 240
Parks-Cramer Co. 256
Patterson-Kelley Co. 281
Penick & Ford Co., Ltd. 257
Pennsylvania Salt Mfg. Co. 188
*Perfecting Service Co. 238
*Perkins & Sons Inc., B. F. 56
Permutit Co. 243
Pittsburgh Corning Corp. 211
Platt Bros. (Sales) Ltd. 24, 26
Powell Co., Wm. 36
*Prince, Smith & Stells. 25
*Proctor & Schwartz, Inc. 161

Railway Express Agency, Inc. 269
Railway Express Agency Inc., Air Express Div. 176
Rayonier, Inc. 20
Red Ray Mfg. Co. 260
Regnery Corp., F. L. 180
*Reiner Inc., Robt. 233
Reliance Electric & Eng'g. Co. 65
Republic Steel Corp. 67
*Rhoads & Sons, J. E. 5
Richmond Oil, Soap & Chem. Co. 230
*Riggs & Lombard, Inc. 14
*Robert & Co., Assoc. ..... Inside Front Cover
Rome Soap Mfg. Co. 245
Rostan Machy. & Equip. Co. 218
Ryerson & Son, Inc., J. T. 132

*Saco Lowell Shops 6
*Sandoz Chemical Wks. 17
*Scholler Bros., Inc. 57
Scott & Williams, Inc. 171
*Scott Testers, Inc. 258
Shell Oil Co. 63
Sims Co., The 227
Sinclair Refining So. 44, 45
Sipp-Eastwood Corp. 243
Sirrine Co., J. E. 268
Socony Vacuum Oil Co., Inc. 11, 144
Solvay Sales Div., Allied Chem. & Dye Corp. 60
*Sonoco Products Co. 151
*Southern Shuttles Div., Steel Heddle Mfg. Co. 97
Southern States Equip. Corp., Henderson Fdry. & Mach. Co. Div. 93
Square D Co. 169
Standard-Coosa-Thatcher Co. 73
Standard Mill Supply Co. 241
Standard Pressed Steel Co. 280
*Standard Soap of Camden 226
Stanley Works, The 178
*Steel Heddle Mfg. Co. 97
*Stephens-Adamson Mfg. Co. 100
*Sterling Ring Traveler Co. 220
Stocker Associates, Inc., Harry E. 263
Stop-Motion Devices Corp. 237
Sun Oil Co. 128
*Supreme Knitting Machine Co. 213
Swift & Co., Soap Dept. 21

Talcott, Inc., James 236
Taylor Instrument Cos. 229
Taylor-Stiles & Co. 248
Tennant Co., G. H. 206
Tenn. Coal, Iron & R. R. Co. 79
Tennessee Eastman Corp. 83
Texas Co. 2
Textile Banking Co. 202
Textile Machine Wks. 91, 92
Tide Water Assoc. Oil Co. 77
Toledo Scale Co. 190
*Tomkins Bros., Co. 255
Topflight Tape Co. 262
Torrington Co., The 81, 83
Tri-Homo Corp. 222
Truitt Mfg. Co. 203

U. S. Gutta Percha Paint Co. .. 27
U. S. Radium Corp. 215
*U. S. Ring Traveler Co. 250
U. S. Steel Corp. 79
U. S. Steel Supply Co. 39
*Unistel Textile Machine Corp. 70
*Universal Winding Co. 164
Uster Corp. 62
Utica Novelty & Mill Spec. Co. 265

*Van Vlaanderen Machine Co. 142
*Veeder Root, Inc. ..... Back Cover
Victor Ring Traveler Co. 65

Walton & Lonsbury 251
Walton Laboratories 185
Watson-Williams Mfg. Co. 268
West Disinfecting Co. 209
*Westinghouse Electric Corp., Small Motors 197
*Whitin Machine Works 19
*Whitinsville Spinning Ring Co. 251
Whitman & Co., Wm. 259
Wildman Mfg. Co. 223
Wiltex, Inc. 230

■

PROFESSIONAL SERVICES

Barnes Textile Associates 262
Lacy, Atherton & Davis 269
Lancaster, Allwine & Rommel .. 270
Lockwood Greene Engrs. Inc. ... 265
Loper & Co., R. E. 266
Robert & Co. Associates, Second Cover
Sirrine Co., J. E. 268

■

SEARCHLIGHT SECTION
(Classified Advertising)

EMPLOYMENT
Positions Vacant 270
Selling Opportunities Offered. 270
Positions Wanted. 270, 272
Selling Opportunities Wanted. 270
Employment Services 270
SPECIAL SERVICES. 272
BUSINESS OPPORTUNITIES
Offered 272
PROPERTY
Wanted 272
EQUIPMENT
(Used or Surplus New)
For Sale. 271-279
WANTED
Equipment 278
Miscellaneous 272

ADVERTISERS INDEX

American Air Compressor Corp. 276
Bay State Textile Co. 277
Bemis Bro. Bag Co. 278
Bialek & Co., Theodore 278
Blank Co., Inc., A. M. 276
Blank, Moe 279
Bresani, Joseph 279
Cadgene Machinery Co. 276
Chandler & Co., Inc., Oscar ... 278
Chemical Service Corp. 272
Collins & Aikman Corp. 274
Consolidated Products Co., Inc. 278
Cornell Sales 277
Crescent Corp. 275
Eagle Industries, Inc. 276
Egan, Inc., Geo. W. 278
First Machinery Corp. 277
Gaines Textile Machinery Co. .. 274
Gates, Walter S. 276
Hall & Jansson Co. 276
Machinery & Liquidating Co. ... 271
McCaffrey & Son, Inc., L. J. ... 278
McCloskey Inc., John J. 276
McDowell Associates Inc. 273
Miller Machinery Co. 276
New England Products Co. 272
Paterson Textile Mchy. Exchange Inc. 277
Princeton Knitting Mills, Inc. . 270
Rabinowitz & Sons, William. ... 274
Raymond Service Inc., Chas. P. 270
Republic Textile Equip. Co. ... 272
Sacony Research & Testing Lab. 278
Seckler, Eugene 279
Shefford Woolens Ltd. 278
Speirman Co., Inc., Morris ... 276
Standard Mill Supply Co. ..272, 279
Stave & Kessler 279
Textile Auxiliaries 272
Triangle Processing Machy. Co. 276
Virginia Fibre Corp. 279
Watson & Desmond 279
Wheeler Co., Frank W. 274
Whittaker, Fred 279
Wilson Lewith Machinery Corp. 278
Yarn Exchange, Inc., The 272

TEXTILE WORLD • INDEX TO VOLUME 99

JANUARY to DECEMBER, 1949

McGRAW-HILL PUBLISHING CO., 330 West 42nd St., New York

A

Accounting—Punch-card system speeds accounting. J. R. Adamson (F)..June 114
Alabama Textile Operating Executives
Carding improvements discussed (F) ..... Feb. 147
Spinning practices discussed at meeting (F) ..... Feb. 137
American Assn. of Textile Chemists & Colorists—Report of meeting (F) .Dec. 110
Argentina—Position of textiles in 1948. John Wilhelm ..... Feb. 109
Australia—Position of textiles in 1948. Herbert Leopold. Feb. 262; correction ..... June 168

B

Belgium—Position of textiles in 1948. Margaret Kocher ..... Feb. 110

Bolivia—Position of textiles in 1948. Jaime Saenz ..... Feb. 109

Brazil—Position of textiles in 1948. H. W. Bagley ..... Feb. 109

C

Canada—Position of textiles in 1948. Frank Flaherty ..... Feb. 109

China—Position of textiles in 1948. J. W. Powell ..... Jan. 254

Cotton Manufacturing

Abrasion tester, rotary ..... Jan. 142
Adding machine helps take loom-pick readings. J. M. Jackson ..... C. 158
Air and humidity do affect oven drying ..... Dec. 188
Air conditioning at Woodside uses no steam (F) ..... Feb. 135
Air-conditioning unit steps up mill efficiency (F) ..... Sept. 144
Alabama Textile Operating Executives study spinning practices (F)..... Feb. 137
Automatic controls lower costs and raise quality. E. D. White (F) ..... Dec. 135
Automatic scale watches picker-lap quality. C. M. Bowden (F)....Nov. 136
Bad blending of stock may cause cockles ..... June 180
Ball-warper stops aided by plugging switch. Sergio Martinez, Jr.....Apr. 160
Basis for nep count 100 sq in of web. Dec. 178
Bates steam main replaces two boiler plants. John Murphy (F)..... Dec. 145
Beaming instructions for each set. ..... Feb. 182
Bleaching improved by instrumentation. C. W. Bowden, Jr. (F)..... Feb. 124
Bleaching with squeezer and saturator. ..... May 148
Blue spots on collars caused by dye deposits ..... June 184
Bobbin-handling plan promises savings. Preben Jessen (F) ..... Jan. 104
Bobbin of hard rubber ..... Feb. 168
Bramwell feed box feeds under pressure. William Shaw ..... July 158
Calender, horizontal ..... Dec. 162
California cotton has fewer neps when lower speeds are used. E. H. Hellwell (F) ..... Aug. 139
Capacitance method measures fabric wear ..... June 142
Card-clothing wire rusts from humidity ..... Feb. 196
Card-flat strips combed at back of card ..... Dec. 185
Carding improvements discussed by Alabama Textile Operating Executives (F) ..... Feb. 147
Carding practices studied by Georgia Textile Operating Executives (F).June 116
Carousel cuts waste-handling cost. C. M. Bowden (F)..... July 100
Casablancas system offered by H. & R. ..... Aug. 150
Chain conveyor moves full sliver cans. L. J. Williams (F)..... Aug. 100
Cloth handling in Southern mills. C. M. Bowden (F) ..... Jan. 100
Coiler heads raised with welded pieces. W. L. Hancock ..... June 164
Color code for gears prevents change errors ..... Dec. 170
Comber features high speed ..... Jan. 141
Combed-yarn mill stops top-roll damage. L. J. Williams (F)..... June 111
Compartment washer features flexibility ..... Aug. 156
Compensator holds warping tension. July 146
Conditioning cotton yarn ..... Feb. 198
Cooking, storage, and size box controlled ..... Jan. 152
Cotton conveyed by air on blending-feeder apron. J. R. Boyter.....June 164
Cotton-jersey shrinkage varies with construction. Dr. Hazel M. Fletcher (F) ..... Oct. 139
Cotton mills cut costs at every step. P. M. Thomas (F) ..... Nov. 114
Filling color motion improved on old looms ..... Nov. 182
Cotton mills should plot fiber-analysis graphs ..... Feb. 186
Cotton-mill waste can be reduced. E. H. Hellwell (F) ..... Aug. 131
Curtains of air combat lint and fly ..... Apr. 152
Desizing evaluation aids dyeing. K. W. Keller (F) ..... June 125
Do you read test values? (F)....Sept. 153
Don't blame static if cots lap up. C. W. Bendigo (F) ..... Apr. 127
Double carding cotton gives a clean sliver ..... Sept. 210
Double slub catcher gives cleaner yarn. J. R. Boyter..... Mar. 166
Drawing sizes corrected to regain..Jan. 168
Dryers equipped with Drimeter. May 148
Dryers for textiles studied by Institute of Textile Technology. P. M. Thomas (F) ..... Mar. 116
Drying textile materials..... Sept. 206
Dust collector ..... Sept. 178
Dyeing cotton jersey. Irving Teplitz (F)..... May 108
Easy way to remember yarn formulas ..... Jan. 170
Editorial squawk aired at conference ..... July 163
Electron micrometer records yarn variations ..... July 146
Elevator frame on winder eliminates manual dumping. J. R. Boyter. Mar. 168
Emulsion important on cotton-wool blends. E. H. Hellwell (F)....Sept. 163
Ends in stripe pattern counted mechanically. E. Swindells..... Feb. 176
Examining lamp ..... Jan. 154
Examining machine ....Jan. 222; Sept. 266
Extra dobby cord sets should be kept. H. E. Wenrich ..... May 168
Extraction speed depends on the material ..... Mar. 184
Extractor has removable twin baskets ..... Feb. 164
Feeder line has improved features. July 144
Fiber meter makes blending automatic. L. J. Williams (F)..... Apr. 137
Fiber tests used to raise yarn strength. Seth Carter (F)..... Apr. 118
Figure carding production right. Aug. 186
Filling winders to be produced by Foster ..... Aug. 149
Filter catches opening-picking dust. Feb. 164
Finishing plant in California looks forward to increasing activity. R. L. Bean (F) ..... Sept. 155
Finishing plant, Springs Cotton Mills, features straight continuous operation. P. M. Thomas (F)..... Jan. 106
Fire prevention cuts cotton fire losses ..... May 170
Flat-bed seamer handles bulky seams ..... Aug. 160
Frame stop motion improves roving ..... Apr. 141
Fringe roll improves picker-lap..Aug. 154
Gage control motor-knife angle.....Dec. 152
Gage measures thickness ..... Oct. 164
Gage measures rolls from center to center ..... Dec. 168
Gas infrared ..... Jan. 154
Good carding requires precise settings (F) ..... Sept. 159
Guard saves narrow-fabric shuttles. July 161
Guide life increased 30 times..... Aug. 158
Hacoba winder ..... Jan. 146
Hand perch has aluminum measuring roller ..... Apr. 146
Handing-in machine speeds drawing-in ..... May 148
Harness holders aid in dropping warp-stop wires. H. E. Wenrich (F)..Apr. 125
Heavy seaming machine..... Apr. 150
Heddle frames, aluminum..... Feb. 168
Hegemax device ..... Aug. 165
Homogenization in warp sizing-report (F) ..... Nov. 127
Hook bolsters repaired by machine. May 146
Hot-air slashing interests Georgia men (F) ..... Jan. 102
Improved shuttle eyes offered ....July 142
Indicator simplifies drawing-in ....June 141
Individual card drive..... Nov. 186
Inspecting machine shows cloth "stationary" ..... May 154
Jacquard, double-lift ..... Jan. 150
Knots counted in testing device....May 143
Lap-handling system pays for itself in a year. P. M. Thomas (F) .....May 110
Lay-down pad shows staple length.Aug. 172
Legal decisions can be helpful. L. T. Parker (F) ..... June 230
Light bulb in box aids counting of picks. A. W. Freeman..... Mar. 164
Linen-type rayons produced on cotton machinery. S. A. G. Caldwell (F).Jan. 189
Loom center stop motion has an automatic guard. W. A. Simond....Mar. 166
Loom girt boosts weaving speed..Sept. 167
Loom-model designations confuse reader ..... Sept. 214
Loom operation improved by flywheel motor ..... Sept. 168
Loom performance data useful for comparison ..... Mar. 182
Machine efficiency recorded by instrument ..... Mar. 146
Manchester Show. J. S. Barke (F). Dec. 101
Measured motion times the job faster. C. M. Bowden (F)..... Oct. 122
Measuring web thickness..... Feb. 166
Meter gives moisture readings.....Jan. 146
Metallic salt control cuts finishing costs. T. N. Patrick (F)..... May 133
Mexico builds modern cotton mill. Harry Schaden (F) ..... Feb. 131
Micarta lap roll holds more cotton..May 156
Micrometer depth gage gives card wire length ..... Sept. 186
Mill purchases hit all-time high. C. W. Bendigo (F) ..... Feb. 107
Miniature slasher developed at N. C. State. Shinn & Sink (F)..... Aug. 122
Modernized weave room gets efficiency. P. M. Thomas (F)..... Mar. 124
Narrow tapes printed on standard machines ..... Oct. 191
Narrow-warp sizing done on loom. H. E. Wenrich ..... June 162
Nep counts made with template....Sept. 142
New card clothing cuts stripping frequency ..... Mar. 143
New cotton mill—India style. Joe Vandenburg (F) ..... Nov. 138
New lap roll holds 20% more cotton. Emery & Hunsicker (F)..... Aug. 137
New spindle cuts maintenance at Greenwood. L. J. Williams (F)..... June 137
1948's textile achievements can be matched in 1949. W. R. Dall (F). Feb. 103
1949 textile output figured close to 1948. S. S. Parker (F) ..... Feb. 104
Nomograph gives nep count per unit weight. J. F. Bogdan (F)..... Oct. 128
Non-lubricated rolls attack highest costs. W. A. Newell (F)..... July 110
Operating tests to improve yarn quality. E. H. Hellwell (F)..... Aug. 102
Packaging in transparent material. W. A. Newell (F)..... July 108
Pepperell experiments with aluminum alloy lays. Earle Mauldin (F)..... Dec. 119
Pepperell's Open House. M. C. E. Roux (F) ..... Mar. 119
Pepperell production increased by four-cylinder shashers. R. R. Horsley (F) ..... Oct. 112
Pick-and-pick loom ..... Dec. 152
Picker maintenance is key to quality. Jake R. H. Pharr (F)..... Nov. 147
Picker, pneumatic ..... Feb. 160
Picking motion cause of bad doffs. Eugene Schremp (F)..... Aug. 141
Pilot control features modernization by Rocky Mount Mills. J. M. Gregory (F) ..... Aug. 110
Plastic tubes easy to doff ..... Oct. 236
Posters keyed to textile industry. W. A. Newell (F)..... Nov. 110
Practical textile drying takes place in two stages ..... Dec. 186
Precision machinery to raise efficiency. W. A. Newell (F)..... Feb. 113
Printing oils speed up cohesion of thickening mixtures. T. N. Patrick (F). Oct. 143
Production equipment produced by Standard Mill ..... Mar. 143
Proper tape points to power savings. R. S. Crowsley (F)..... Mar. 126
Quiller makes variety of packages. Sept. 168

(F) indicates feature article

Radiation used to measure thickness ..... Sept. 262
Random web machine uses short fiber ..... July 141
Regaining quality requires definite plan. E. M. Findley, Jr. (F) ..... May 103
Regulator adjusts slasher-roll weight ..... Aug. 154
Research in cotton brings improved products (F) ..... May 131
Ribbon-lapper knock-off ..... Dec. 167
Roller bearings in spindle bolsters ..... June 150
Roller bearings self-lubricating ..... Oct. 232
Rolls improve yarn quality ..... Oct. 160
Rolls unweighted with lever and hooks ..... Oct. 171
STA discusses cotton yarn problems (F) ..... Jan. 137
STA meeting scans card-room methods (F) ..... June 129
STA report (F) ..... Dec. 137
Saddles and nebs permanently oiled ..... Feb. 168
Sandwich blends made automatically ..... Aug. 150
Seats for spinners fastened to frames ..... Aug. 170
Seconds caused by center-fork smashes. Albert Frants (F) ..... Mar. 131
73% caustic soda saves plant money (F). C. N. Rabold ..... Apr. 121
Shipper-handle lock works on E-model loom. W. C. Westbrook ..... Oct. 178
Shirley high-draft spinning system requires little setting (F) ..... July 127
Shuttles kept on loom arch ..... Aug. 168
Shuttle refinisher ..... July 141
Slasher, hot-air ..... Feb. 160
Slashing and weaving explored by Alabama men (F) ..... Aug. 118
Slashing practices discussed by Georgia men (F) ..... Dec. 117
Slitting machine ..... June 148
Sliver tester spotlights quality. C. M. Bowden (F) ..... Oct. 130
Small-yardage dyeing cost cut by inclosed jig. F. A. Alter (F) ..... Oct. 120
Smooth reed wires stop washboarding. ..... Sept. 184
Snick-plate wrench holds Allen wrench. ..... June 164
Soft-thread bolts hold lay end ..... May 164
Southern Regional Research Laboratory works on cotton developments (F) .. Jan. 139
Spend money to save on operating costs (F) ..... Nov. 105
Spindle of new design ..... Feb. 166
Spindle, roller-bearing ..... Nov. 160
Spinners' standards don't go far enough. C. M. Bowden (F) ..... Mar. 122
Spinning-end breaks trouble Mexican mill ..... Aug. 198
Spinning frame driven by gears and chains. H. J. Cabanius ..... Mar. 166
Spinning-frame wire breaks singling ends ..... Jan. 162
Spinning practices given by Georgia Operating Executives (F) ..... July 106
Spooler rejects gage spinning quality. L. M. Howell (F) ..... Jan. 131
Spot remover ..... Nov. 196
Spreader has improved bearing ..... May 154
Springs Cotton Mills steps up steam production with new coal pulverizer. L. J. Williams (F) ..... July 117
Spring-needle feed parts important (F). A. M. Young, Jr. ..... Mar. 120
Stroboscope shows winding of roving. ..... Dec. 174
Sweepstick improves picking action. ..... Sept. 170
Synthetic detergents have broad application. Dr. O. M. Morgan (F) ..... Apr. 129
Swiss Stoffel plant shows advanced engineering. H. U. Steinmann (F) ..... June 101
TOE discusses cotton weaving (F) ..... Dec. 122
Tape has many uses ..... Aug. 165
Tape of cotton and nylon ..... Sept. 159
Technology advances at Textile Research Dept., American Viscose Corp. (F) ..... Aug. 93
Temperature controls save slasher heat. ..... June 178
Tensile tester ..... Jan. 146
Tensiometer measures yarn tension ..... Sept. 252
Tenter frame ..... Mar. 148
Terry-towel borders can have infinite variety. T. Hargreaves (F) ..... June 112
Tester for yarn, roving or sliver ..... May 156
Tester, hand-powered ..... Aug. 165
Thread counter ..... June 146
Three step plan for cutting costs in your mill. Uris & Kostemayer (F) ..... Nov. 110
Timestudy methods give true job values (F) ..... Nov. 126
Top roll ends bushed with nylon ..... Aug. 166
Two-for-one twister designed for tire cord ..... Oct. 232
Ultra-thin sectioning evolved for fiber study (F) ..... Oct. 141
Ultraviolet light permits quick testing. F. Wood (F) ..... Nov. 142
Variable-speed unit ..... Apr. 154
Visual check shows friction slippage. ..... Nov. 182
Warp bobbins stripped automatically. ..... Sept. 174
Warper runs 900 yd. per minute ..... May 144
Warps tied with single preparation ..... June 148
Washing systems greatly improved. D. S. Quern (F) ..... June 108
Weave room methods explained by Textile Operating Executives of Georgia (F) ..... Feb. 129
Weaver's signal made from tail light. ..... May 162
Weaving accessories have extreme hardness ..... Apr. 148
Weaving changes improve impact resistance (F) ..... Feb. 155
Wet Processing Show—Guide to exhibitors ..... June 192a
White effects in discharge printing. T. N. Patrick (F) ..... July 127
Winder-yarn conveyors save $10,000 a year. G. C. Warren, Jr. (F) ..... Dec. 120
Worker health and mill temperature. P. L. Davidson (F) ..... Mar. 141
World position of textiles in 1948 (F). ..... Feb. 108
Yarn catching on cone stopped. Eric Brown ..... Mar. 162
Yarn measured by light ..... Jan. 144
Yarn packages increased at Tallassee Mills. L. D. Sayers (F) ..... Jan. 108
Yarn tensometer. K. E. Trelenberg ..... July 160
Yarn variation shown by index. E. H. Jackson, Jr. (F) ..... Aug. 106
Your roving defines card-room quality. Seth Carter (F) ..... Mar. 123
Czechoslovakia—Position of textiles in 1948. Elizabeth Fisher ..... Feb. 111

D

Defects—Bad blending of stock may cause cockles ..... June 130
Blue spots on collars caused by dye deposits ..... June 184
Causes of rayon defects are frequently confused. Albert Frants (F) ..... June 135
Defective embossing causes dye breaks ..... Apr. 234
Plate-glass squares show printing—color defects. J. R. Stewart ..... Feb. 130
Quill paper woven into cloth ..... Sept. 186
Temples may cause warpwise defects. Albert Frants (F) ..... July 131
Denmark—Position of textiles in 1948. Henry Pandermadjian ..... Feb. 110

Designing

Color effects on Glen plaids should be kept sharp. George Hart (F) ..... May 127
Pattern area layouts should be of simple shape. Abrams & Mishcon (F) ..... July 120
Pattern-area layouts use three needle positions. Abrams & Mishcon (F) ..... Aug. 124
Small-diamond pattern with eight harnesses ..... July 178
Soluble yarns make novel effects possible. Dr. J. Menkart (F) ..... Aug. 120
Terry-Towel borders can have infinite variety. T. Hargreaves (F) ..... June 112
Textile designing requires training ..... Aug. 190
Dominican Republic. Position of textiles in 1948. Fran Reed ..... Feb. 110

Dyeing and Finishing

AATCC report (F) ..... Dec. 109
Acetate red ..... Nov. 265
Adhering machine speeds screen printing ..... Apr. 144
Advice to dyers ..... June 146
Agent conditions fibers, eliminates streaky dyeing ..... Nov. 268
Ammonium compounds used as softening agents ..... May 178
Berkshire hosiery dyeing. H. L. De Turck (F) ..... Dec. 114
Blue spots on collars caused by dye deposits ..... June 184
Capillary thermometers in wet finishing ..... Jan. 164
Caustic or acid bath strength controlled ..... Jan. 142
Ceglin used to obtain finish on cloth ..... Feb. 202
Chemical feeder meters and dispenses chemicals ..... Dec. 160
Chlorinator ..... Apr. 142
Cloth guided by air nozzles ..... Jan. 144
Cloth guider ..... Jan. 148
Coating and embossing in one operation ..... July 154
Cold dye applied by glass tube at reel ..... May 168
Color and process vital in use of vats on wool. G. T. Hug (F) ..... Mar. 137
Color temperature measured ..... Nov. 172
Compartment washer features flexibility ..... Aug. 156
Compensator, tank washer ..... Mar. 152
Control of metallic salts cuts most of finishing. T. N. Patrick (F) ..... May 133
Control reduces dyeing costs. K. E. Marsden (F) ..... May 238
Control variables in dyeing cotton jersey. Irving Teplitz (F) ..... May 108
Cost of direct-color dyeing ..... Oct. 194
Cotton finishing plant, Springs Cotton Mills, features straight continuous operation. P. M. Thomas (F) ..... Jan. 106
Cover moves in tracks on dye jig ..... July 142
Defective embossing causes dye breaks ..... Apr. 234
Desizing evaluation aids dyeing. K. W. Keller (F) ..... June 125
Dried eggs still used for binding pigments ..... May 178
Dye-house truck has partitions ..... Sept. 174
Dye jig holds tension constant ..... Oct. 164
Dye jig operation automatically controlled ..... Aug. 158
Electronics make possible superior control. Karl Selden, Jr. (F) ..... May 137
Finishing is capitalizing recent gains. Rabold & Morris (F) ..... Feb. 116
Finishing machine ..... Mar. 150
Finishing plant in California looks forward to increasing activity. R. L. Bean (F) ..... Sept. 155
Finishing units ..... July 150
Fugitive tint to identify mixed yarn ..... Jan. 164
Gas infrared heat generator ..... Nov. 160
Gloves conditioned in 15-min. period ..... Aug. 160
Half-hose dyehouse is versatile. E. D. White (F) ..... July 104
Handle processing acids in weak concentrations ..... Feb. 204
Heat-transfer principles improve drying. C. B. Albright (F) ..... July 112
Heliofast, printing process ..... Jan. 144
Herringbone-hump reel for piece-dye kettles ..... Apr. 146
Inclosed dyebox ..... Oct. 168
Knit goods trends for better finishing. L. L. Walmsley (F) ..... Jan. 116
Knit-nylon fabrics being set continuously. A. J. Nisbet (F) ..... Nov. 140
Labels printed on moving fabric ..... Mar. 156
Laboratory dye kettle ..... Jan. 152
Leaders for jig dyeing stop waste of undyed ends ..... Dec. 168
Lippitt mill rejuvenated by modern equipment. C. H. Leach (F) ..... July 114
Manchester Show. J. S. Barke (F) ..... Dec. 101
Metallic yarn which will not tarnish ..... Nov. 170
Monofilament fabrics require special techniques (F) ..... Oct. 108
Narrow tapes printed on standard machines ..... Oct. 191
Padder easily changed in finishing operations ..... May 146
Piece-dyed worsteds must have special attention. E. P. Schremp (F) ..... May 141
Portable sewing machine ..... Sept. 268
Precision machinery to raise efficiency. W. A. Newell (F) ..... Feb. 113
Preshrinking increases stability of polyethylene (F) ..... Nov. 145
Printing oils speed up cohesion of thickening mixtures. T. N. Patrick (F) ..... Oct. 143
Printing-roll guards protect against burns ..... Aug. 172
Printing 3,800 colors at one time ..... Mar. 146
Printing vinyl requires textile methods (F) ..... Sept. 142
Pump, proportioning ..... Dec. 160
Range shrinks 4% with minimum tension ..... Sept. 176
Rayon finishing processes combined into one ..... Oct. 162
Regaining quality requires definite plan. E. M. Findley, Jr. (F) ..... Nov. 103
Reworked woolens dye better if stripped. K. E. Marsden (F) ..... Feb. 141
Rubber-like coating is corrosion-resistant ..... Nov. 268
Screen printer, automatic ..... Aug. 156
Seven tank machine has individual nip drives ..... July 152
73% caustic soda saves plant money. C. N. Rabold (F) ..... Apr. 121
Seven-tank squeeze-roll machine ..... Sept. 262
Small-package dyeing is making headway. A. P. Manth (F) ..... Sept. 106
Small repeat designs printed with roller ..... July 172
Small-yardage dyeing cost cut by inclosed jig. F. A. Alter (F) ..... Oct. 120
Spend money to save on operating costs (F) ..... Nov. 105
Stainless steel the answer to many corrosion problems (F) ..... Dec. 124
Stripping dye from nylon requires laboratory work ..... Oct. 192
Tape has many uses ..... Aug. 165
Tarnishproof treatments are covered by patents ..... Nov. 195
Textile World's finishing symbols. C. N. Rabold (F) ..... Jan. 93
Top-dyeing machine ..... Feb. 162
Tricot finishing methods. Irving Teplitz (F) ..... Mar. 129
Vinyl-film printing—intaglio printing. D. C. McGlevan (F) ..... Dec. 147
Washing systems greatly improved. D. S. Quern (F) ..... June 108
Water filtered and softened saves fuel, improves quality of finishing. E. D. White (F) ..... Aug. 108
Water repellent especially for nylon ..... Sept. 276
Waxes used to finish corduroy ..... Jan. 180
Wet-Processing Equipment and Supplies Exposition (F) ..... Aug. 112
Wet Processing Show—guide to exhibitors ..... June 192a
Wetting goods causes crease marks ..... May 180

(F) indicates feature article

White effects in discharge printing. T. N. Patrick (F) ..... July 137
Wool-broadcloth finishing requires many processes ..... June 182
Wool dyeing faults can be prevented or cured. K. E. Marsden (F) ..... Jan. 135
Wool jersey finishing calls for special techniques. Irving Teplitz. (F) .. July 133
Worsted for hard wear needs special attention in dying. K. E. Marsden (F) ..... Apr. 139

E

Egypt—Position of textiles in 1948. Branko Adjemovitch ..... Feb. 258

F

Fibers

Monofilament and staple azlon products, a casein fiber. C. W. Bendigo (F) ..... May 106
Poem on fibers. J. B. Goldberg ... Aug. 188
Quality winding demands precision control. K. H. Inderfurth (F) ..... Dec. 130
Spend money to save on operating costs (F) ..... Nov. 105
Ultra-thin sectioning evolved for fiber study (F) ..... Oct. 141
Ultraviolet light permits quick testing. F. Wood (F) ..... Nov. 142
Vicara blends give best results. G. R. Wildermuth (F) ..... June 139
Finland—Position of textiles in 1948. O. O. Ojala ..... Feb. 111

Flow charts

Felt flow chart (F) ..... Mar. 103
Synthetic flow chart brought up to date ..... Sept. 111
France—Position of textiles in 1948. Boyd France ..... Feb. 111

G

Gloves conditioned in 15-min. period. Aug. 160

Great Britain

Manchester Show. J. S. Barke (F) .. Dec. 101
Position of textiles in 1948. F. R. Brewster ..... Feb. 111
Shirley high-draft spinning system requires little setting (F) ..... July 127
Gautemala—Position of textiles in 1948. Rafael Sabbagh ..... Feb. 110

H

Homogenization in warp sizing—report (F) ..... Nov. 127

Hosiery

Accessories developed for nylon knitting ..... Mar. 154
Adhesive for needle-plate leathers .. Jan. 164
Air conditioning aided by magnetic drive. C. M. Bowden (F) ..... Apr. 131
Air conditioning necessary in hosiery processing. H. L. Kempaner (F) . Feb. 157
Apex Hosiery modernization reduces maintenance. F. E. Struve (F) .. Nov. 135
Berkshire hosiery dyeing. H. J. De Turck (F) ..... Dec. 114
Boarding retort steam-sets and dries .. Dec. 150
Carrier tension rings ..... Jan. 146
Circular-hosiery mill maintains quality of yarn. E. D. White (F) ..... Apr. 95
Circular machine knits full-fashioned stockings ..... July 154
Device saves wrap yarn. L. J. Williams (F) ..... Oct. 145
Full fashioned machines have back stop ..... Apr. 150
Full fashioned mills experiment with yarns. H. E. LeFeaux (F) ..... Apr. 93
Half-hose costs cut. C. M. Bowden (F) ..... Nov. 116
Half-hose dyehouse is versatile. E. D. White (F) ..... July 104
Half-hose lubrication should be simple. John Simmons (F) ..... Feb. 126
Half-hose mill gets facts on looping. C. M. Bowden (F) ..... Oct. 118
Infants socks produced by Komet links-and-links machine ..... Apr. 144
Inspection insures product quality (F) ..... Sept. 140
Knit goods trends for better finishing. L. L. Walmsley (F) ..... Jan. 116
Knit-nylon fabrics being set continuously. A. J. Nesbit (F) ..... Nov. 140
Knitters' style tags mounted on machine ..... Feb. 184
Knitting Arts Exhibition in Atlantic City (F) ..... June 118
Knitting-yarn preparation must reflect quality. E. D. White (F) ..... Sept. 108
Lieberknecht 60-gage f.f. machine. Jan. 150
Machine gages are a "must" for fixers. H. B. LeFeaux (F) ..... Sept. 134
Machine records hosiery stretch and recovery ..... July 142
Men's hosiery knitter ..... Nov. 162
New finishing equipment ..... May 142
Novelty heels. H. B. LeFeaux (F) .. Dec. 108
Nylon mill benefits from modernization. W. A. Newell (F) ..... Jan. 114
Nylon pirn tension test reveals wider variance in drag. Stein & Judson (F) ..... Aug. 114
66-gage twin knitter ..... July 146
Slide rule used in counting courses ..... Jan. 164
Socks for children made on Lacemaap machine ..... Feb. 159
Stamping efficiency stepped up by mechanization. L. J. Williams (F) ..... Jan. 127
Tension rods on winder stop knitting-yarn defects. W. A. Simond .... Feb. 180
12-point program reduces full-fashioned costs. H. B. LeFeaux (F) ..... Nov. 120
Woolen-sock production was almost doubled. W. A. Simond ..... Apr. 164
Yarn tension key to hosiery length. H. B. LeFeaux (F) ..... Mar. 111
You can overuse nylon in wool blends. Harry Wignall (F) ..... Aug. 135
Hungary—Position of textiles in 1948. Maria Egger ..... Feb. 111

I

India—Position of textiles in 1948. J. K. Van Denburg ..... Feb. 258
New cotton mill. Joe Van Denburg (F) ..... Nov. 138
Italy—Position of textiles in 1948. Diego Straniero ..... Feb. 242

J

Japan

More production of Japanese textiles. A. W. Jessup (F) ..... May 242
Position of textiles in 1948. A. W. Jessup ..... Feb. 258

K

Knit Goods

Better finishing trends. L. L. Walmsley (F) ..... Jan. 116
Changing needle gage is an overhauling job. ..... Apr. 230
Clamp and shear cuts yarn waste .. Sept. 172
Cotton Jersey dyeing. Irving Teplitz (F) ..... May 108
Cotton-jersey shrinkage varies with construction. Dr. Hazel M. Fletcher (F) ..... Oct. 139
Gear train speeds retiming of dial on machine. W. A. Simond ..... Oct. 174
Graphs that show costs are useful to knitters. H. Wignall ..... Sept. 190
Guide to exhibitors 1949 Knitting Arts Exhibition ..... Apr. 178
Handling of wool yarn affects feel of fabric. W. A. Simond (F) ..... Apr. 95
Hooked-comb dangler corrects rib press-offs. Joseph Rab ..... July 158
How do you determine fabric boardable width? ..... Aug. 192
Improper clutch setting may damage machine ..... Nov. 254
Interlock machine ..... May 152
Knit-nylon fabrics being set continuously. A. J. Nisbet (F) ..... Nov. 140
Knitting Arts Exhibition in Atlantic City (F) ..... June 118
Knitting needles stored in "conditioned cabinet" ..... Dec. 166
Lint can be licked in your knitting mill. Lawrence Levy (F) ..... Oct. 137
Manchester Show. J. S. Barke (F) .. Dec. 101
Miniature slasher developed at N. C. State. Shinn & Sink (F) ..... Aug. 122
Needles selected for fabric ..... Jan. 186
Outerwear mills stress handling and feeding (F) ..... Apr. 102
Overedger ..... Sept. 268
Pattern area layouts should be of simple shape. Abrams & Mishcon (F) .. July 120
Pattern-area layouts use three needle positions. Abrams & Mishcon (F) ..... Aug. 124
Pattern wheels adaptable in circular-knit designing. Abrams & Mishcon (F) ..... May 112
Precision machinery to raise efficiency. W. A. Newell (F) ..... Feb. 113
Press-offs and stops reduced by yarn control (F) ..... Apr. 96
Sinker-bed trick cutters ground on this device. Harry Wignall ..... May 160
Spend money to save on operating costs (F) ..... Nov. 105
Steady improvements spark knitting mill cost program. E. D. White (F) ..... Nov. 122
Tester determines knit-goods shrinkage ..... Feb. 170
Tricot-handling system is mill designed. C. M. Bowden (F) ..... Apr. 100
Tricot knitting machine has centralized lubrication ..... Apr. 144
Underwear knitter emphasizes yarn and feeding. E. D. White (F) ..... Apr. 105
Vertical inlaid fabric ..... May 166
Wool jersey finishing calls for special techniques. Irving Teplitz (F) .. July 133
Yarn feed controlled ..... Feb. 166
Yield chart gives knitting data. Max Mizel (F) ..... July 129
You can overuse nylon in wool blends. Harry Wignall (F) ..... Aug. 135

M

Maintenance

Acid-resistant nails used in platform truck ..... June 160
Apex Hosiery modernization reduces maintenance. F. E. Struve (F) .. Nov. 135
Bobbin chokes cleaned by compressed-air-valve ..... Nov. 170
Cabinet for odds and ends ..... Nov. 182
Centralized lubrication of textile machinery. Newell & Thomas (F) ..... May 115-126
Chatter-marked cam repaired with saw blade. Harry Wignall ..... July 161
Clean loom thread holder with cleaning solvent ..... Feb. 184
Compressible lubricant ..... Oct. 156
Dolly washer ..... Nov. 159
Drill press ..... Oct. 174
Dust-mop of lambswool-lined crosshead with handle and rollers ..... Oct. 242
Dusting loom brake bands. H. E. Wenrich ..... May 166
Floor cleaner ..... Jan. 153
Fluorescent tubes should be broken under water for safety ..... Sept. 184
Heat and penetrating oil free frozen bolt threads. W. E. Warner ..... Mar. 164
Lead pencil contactors test electrical current. W. E. Warner ..... Sept. 184
Loom whiprolt bracket has oil hole and bearing. W. E. Warner ..... Nov. 175
Lubrication of half-hose. John Simmons (F) ..... Feb. 126
Metal tap on handle prevents wood splitting. L. J. Keller, Sr. ..... Nov. 180
Mill sanitation more than pays its way. Horace Lechem (F) ..... Feb. 143
New fixer reports on the night shift ..... Mar. 170
Plumbing fixtures saved by cleaning program. Richard Irmiter (F) ..... Oct. 126
Quills relacquered automatically ... Nov. 159
Rocker jaws replaced with steel. Wm. Shaw ..... Oct. 176
Roving-frame spindle steps oiled without being lifted. Wm. Shaw ..... Mar. 160
Tapered plug in bolt locks nut to bolt. W. E. Warner ..... Sept. 186
Temporary wiring systems should be corrected ..... May 240
Tool mount ..... Apr. 142
Truck casters require attention .... Nov. 178
Turbine inspection ..... Nov. 260
Two ways to tighten loose wood screws. W. E. Warner ..... Oct. 174
Warper-comb teeth straightened with tool. W. H. Gerrells ..... Feb. 182
Weld cast iron cool ..... June 164
Welding repairs broken water line . Nov. 176
Wet-dry vacuum cleans floors ..... Feb. 162

Management

Herman Burns asks his supervisors. J. W. Scott, Jr. (F) ..... Oct. 153
Five timestudy uses seen as important. Phil Carroll (F) ..... May 135
How Botany Mills handles grievances (F) ..... Mar. 107
How supervisors can control costs. Glenn Gardiner (F) ..... July 157
Interviewing supervisors. Hudson Nix (F) ..... Dec. 142
Let's interlock knowledge too! C. W. Bendigo ..... Mar. 4
Mr. Overseer—counseling is for you! Hudson Nix (F) ..... Dec. 165
Opportunity knocks again. C. W. Bendigo (F) ..... Nov. 4
Overseers role in lowering operating costs. E. H. Helliwell (F) ..... Nov. 112
Responsibilities graduate. C. W. Bendigo ..... July 4
Rules of conduct necessary for efficient operation. M. P. Miller (F) ..... Nov. 157
Suggestions net employees awards at U. S. Rubber. H. R. Moore (F) .. Aug. 116
Supervisors called foremen are usually mill overseers (F) ..... Aug. 115
Three step plan for cutting costs in your mill. Uris & Kostemayer (F) .... Nov. 110

Merchandising—"Success on display" is good promotion. G. M. Dodson ..... Oct. 180
Textiles packaged in transparent material. W. A. Newell (F) ..... July 108
Transparent wrapping is highly durable ..... Dec. 152
Mexico—New modern cotton mill. Harry Schaden (F) ..... Feb. 151
Position of textiles in 1948. Dorothy Neal ..... Feb. 110

Mill Engineering

Advanced engineering in Swiss Stoffel plant. H. U. Steinmann (F) ..... June 101
Air conditioning aided by magnetic drive. C. M. Bowden (F) ..... Apr. 131
Air conditioning at Woodside uses no steam (F) ..... Feb. 135
Air conditioning necessary in hosiery processing. H. L. Kempaner (F) .. Feb. 157
Air conditioning provides "pilot-plant" at Cone Mills Revolution rayon plant. Harry Schaden (F) ..... Aug. 98
Air-conditioning unit ..... Dec. 163
Air-conditioning unit steps up mill efficiency (F) ..... Sept. 144
Air filter has water-wash built in .. Nov. 172

(F) Indicates feature article

Air gap around armature checked with bright light. W. E. Warner.....Mar. 164
Atmosphere controlled by dehumidifying unit.....Dec. 160
Automatic controls lower costs and raise quality. E. D. White (F).....Dec. 133
Bale truck.....July 152
Bates restores thirty-year-old floors (F).....Apr. 116
Bates steam main replaces two boiler plants. John Murphy (F).....Dec. 145
Bundles of socks, ties counted mechanically. H. J. Haas.....Mar. 160
Carousel cuts waste-handling cost. C. M. Bowden (F).....July 100
Cast panels used in woolen mills. E. H. Helliwell (F).....Sept. 138
Chain conveyor moves full sliver cans. L. J. Williams (F).....Aug. 100
Check shaft alignment with inside calipers. W. E. Warner.....Nov. 175
Cloth handling in Southern mills. C. M. Bowden (F).....Jan. 100
Continuous treatment of textile wastes. R. E. Oberholtzer (F).....Oct. 103
Conveyor, canvas-belt, moves wet knit goods.....Jan. 160
Conveyor moves napped rolls.....Dec. 166
Dust collector.....Sept. 178
Electric and glass fiber heating unit.....Jan. 148
Electrification a key to modernization (F).....Sept. 131
Electronic controls remove processing guesswork. C. W. Bowden, Jr. (F).....Oct. 124
Electronics make possible superior control. Karl Selden, Jr. (F).....May 137
Engineers must consider the human factor.....Feb. 188
Finishing plan in California. R. L. Bean (F).....Sept. 155
Four drum carrier.....Jan. 148
Gas infrared heat generator.....Nov. 160
Good engineering service more essential. C. P. Wood (F).....Feb. 115
Grinder, split-drum.....Dec. 156
Hand truck, battery powered.....Mar. 146
Heat-transfer inlets improve drying. C. B. Albright (F).....July 112
Heating coils in plate form.....Dec. 162
Humidification—five systems available. A. H. Bahnson, Jr. (F).....June 104
Humidifier useful for boosting existing systems.....Dec. 158
Humidity indicator has fan attachment.....Aug. 206
Humidity tests should be accurate. E. M. Paul.....May 174
Lighting improvements increase production at Bachmann Uxbridge Worsted. W. A. Newell (F).....Apr. 110
Lippit mill rejuvenated by modern equipment. C. H. Leach (F).....July 114
Looms held to floor by resin, asphalt and felt. T. Hargreaves.....Nov. 180
Loom-starters have overload protection.....Oct. 166
Machine counts tickets.....Dec. 160
Materials handling—handle with care (F).....Sept. 136
Materials handling needs individual engineering. S. R. Brookshire (F).....Nov. 151
Materials-handling show brings wealth of ideas. W. A. Newell (F).....Mar. 112
Mechanical announcer talks to supervisors.....Oct. 172
Mexico builds modern cotton mill. Harry Schaden (F).....Feb. 151
Motor brake.....Dec. 158
Picker-lap handling system pays for itself in a year. P. M. Thomas (F).....May 110
Plug valve is corrosion-resistant.....Oct. 240
Precipitron of aluminum.....Aug. 148
Principal capital outlay is for modernization. R. C. Scott (F).....Nov. 103
Roto-Coner equipped with inclined conveyor. Harold LeGan.....July 161
Rubber pads dampen machine vibration.....July 148
Safety floor mat.....Mar. 156
Schneider Mills weaving mill is called ultramodern. C. M. Bowden (F).....Feb. 120
Section-beam conveyor at Graniteville Mill. E. D. White (F).....Jan. 112
Seismograph records mill vibration.....Feb. 176
Sliding doors operated by pneumatic device.....Dec. 156
Solenoid-operated, multiple-feed oiler.....July 144
Spinning-room air blown to weave room.....Dec. 172
Springs Cotton Mills steps up steam production with new coal pulverizer. L. J. Williams (F).....July 117
Stainless steel the answer to many corrosion problems (F).....Aug. 124
Static eliminator uses low voltage.....July 141
Stepless speed control on small motors.....Dec. 156
Strain-gage tests reveal beam-stress data. D. C. Bender (F).....Oct. 133
Tachometer.....June 150
Tag on machine held by wooden peg. H. E. Wenrich.....Feb. 182
Test lamp, portable, speeds trouble shooting.....June 162
Tricot-handling system is mill designed. C. M. Bowden (F).....Apr. 100
Trucks expedite warp handling. Marion, N. C. (F).....Oct. 149
Truck of steel has yarn-proof wheels.....July 144
Truck, versatile.....Feb. 162
Ultrasonic generator aids wet-process studies.....Oct. 164
Valve, new globe.....Feb. 166
Watchclock.....Jan. 142
Water filtered and softened saves fuel, improves quality of finishing. E. D. White (F).....Aug. 108
Wind-yarn conveyors save $10,000 a year. G. C. Warren, Jr. (F).....Dec. 120
Worker health and mill temperature. P. L. Davidson (F).....Mar. 141

Modernization

Apex Hosiery modernization reduces maintenance. F. E. Struve (F).....Nov. 135
Lippitt mill rejuvenated by modern equipment. C. H. Leach (F).....July 114
Nylon mill benefits from modernization. W. A. Newell (F).....Jan. 114
Pilot control features modernization by Rocky Mount Mills. J. M. Gregory (F).....Aug. 110
Principal capital outlay is for modernization. R. C. Scott (F).....Nov. 103
Weave room modernized. P. M. Thomas (F).....Mar. 124

N

The Netherlands—position of textiles in 1948. Paul Catz.....Feb. 246
New Zealand—position of textiles in 1948. Herbert Leopold.....Feb. 262
Norway—position of textiles in 1948. Arne Solom.....Feb. 246

Nylon

Accessories developed for nylon knitting.....Mar. 154
Bobbin of aluminum "armored" with plastic.....Nov. 172
Combination throwing. S. J. Miller (F).....Dec. 141
Dryers for textiles studied by Institute of Textile Technology. P. M. Thomas (F).....Mar. 116
Equipment, employee benefits keynote modernization at Chipman Knitting Mills. W. A. Newell (F).....Jan. 114
Full-fashioned mills experiment with yarns. H. B. LeFeaux (F).....Apr. 93
Guide life increased 30 times.....Aug. 158
Heat-setting machine.....Apr. 150
Heated air used to set nylon fabric.....Nov. 162
Hosiery inspection insures product quality (F).....Sept. 140
Knit-nylon fabrics being set continuously. A. J. Nisbet (F).....Nov. 140
Knitting Arts Exhibition in Atlantic City (F).....June 118
Mending technique width pencil-eraser. F. H. Eichhorn.....Sept. 190
Mineral and vegetable oils preferred as coning oils.....July 180
"Monocord" joins family of textile yarn forms (F).....Jan. 125
Monofilament fabrics require special techniques (F).....Oct. 108
Nylon textile rope has long life.....Dec. 154
Pinking shears will not pull nylon fabrics.....Nov. 162
Firn tension test reveals wide variation in drag. Stein & Judson (F).....Aug. 114
Plastic tubes made to withstand crush of nylon.....Oct. 242
Quality winding demands precision control. K. H. Inderfurth (F).....Dec. 120
Strain-gage tests reveal beam-stress data. D. C. Bender (F).....Oct. 133
Stripping dye from nylon requires laboratory work.....Sept. 192
Tape of cotton and nylon.....Nov. 159
Traveler for nylon.....May 150
Ultraviolet light permits quick testing. F. Wood (F).....Nov. 142
Vicara blends give best results. G. R. Wildermuth (F).....June 139
Water repellent especially for nylon.....Sept. 270
You can overuse nylon in wool blends. Harry Wignall (F).....Aug. 135

P

Peru—position of textiles in 1948. W. H. Eguren.....Feb. 110
Philadelphia Textile Institute—new main building opens (F).....Nov. 155

Plastics

High-frequency heat sets plastics.....Nov. 170
Monofilament fabrics require special techniques (F).....Oct. 108
Preshrinking increases stability of polyethylene (F).....Nov. 145
Printing vinyl films requires textile methods (F).....Sept. 142
Portugal—position of textiles in 1948. H. Richardson.....Feb. 250
Puerto Rico—position of textiles in 1948. E. S. Ortiz.....Feb. 110

Public Relations

Herman Burns asks his supervisors. J. M. Scott, Jr. (F).....Oct. 153
Cooperative training profits the mills. J. R. King (F).....Sept. 103
Costs and job security. Glenn Gardiner (F).....Feb. 175
Credit Union is valuable worker benefit. C. H. Leach (F).....June 127
Five timestudy uses seen as important. Phil Carroll (F).....May 135
Fulton Bag & Cotton Mills aims at better workers with better health. E. D. White (F).....June 106
Greenville Textile Club serves mill section. Lou Greet (F).....May 129
Higher operator production. C. W. Bendigo.....Aug. 4
Housing developments offered by Berkshire Fine Spinning Associates. R. L. C. H. Leach (F).....Apr. 114
How Botany Mills handles grievances (F).....Mar. 107
If you have to lay off men. Glenn Gardiner.....Mar. 159
Incentive plan promotes quality output. H. S. Knowlton (F).....Jan. 98
Industrial-relations programs should be expanded. William Eastman (F).....Aug. 143
Interviewing supervisors. Hudson Nix (F).....Dec. 143
Job satisfaction can build job interest. Glenn Gardiner (F).....Apr. 157
Lockers equipped with circulating air system.....Jan. 160
Manpower factor must be right in 1949. C. M. Bowden (F).....Feb. 117
Mill sanitation more than pays its way. Horace Leche (F).....Feb. 143
Older workers. G. M. Dodson.....Mar. 172
Mr. Overseer—counseling is for you! Hudson Nix (F).....Sept. 165
Overseers role in lowering operating costs. E. H. Helliwell (F).....Nov. 112
Pension plan—why necessary. M. M. Goldstein (F).....July 135
Pepperell's Open House. M. C. Roux (F).....Mar. 119
Personal traits need consideration. Glenn Gardiner (F).....May 149
Posters keyed to textile industry. W. A. Newell (F).....Sept. 110
Rules of conduct necessary for efficient operation. M. P. Miller (F).....Nov. 157
Suggestion box.....Feb. 162
Suggestions net employees awards at U. S. Rubber. H. R. Moore (F).....Aug. 116
Supervisors called foremen are usually mill overseers (F).....Aug. 115
Supervisors should know workers ceiling levels.....Dec. 174
Swedish mill charts idle time and cause. H. W. Anderson (F).....Feb. 122
Teach workers quality. get quality. Glenn Gardiner (F).....June 154
Timestudy training in Southern mill makes use of electrical gadget. Moore & Bowden (F).....Sept. 147
Value of recreation recognized by Dover Mills. Earle Mauldin (F).....Apr. 106
Vision and efficiency is studied by Fulton Bag & Cotton Mills. E. W. Hendrick (F).....July 97
Workers health and mill temperature. P. L. Davidson (F).....Mar. 141

R

Radio-active isotopes have wider uses now in textiles (F).....Dec. 129

Rayon Manufacturing

Abrasion tester, rotary.....Jan. 142
Adding machines helps take loom-pick readings. J. M. Jackson.....Apr. 158
Air and humidity do affect oven drying.....Dec. 188
Air conditioning at Woodside uses no steam (F).....Aug. 135
Air conditioning provides "pilot-plant" at Cone Mills Revolution rayon plant. Harry Schaden (F).....Aug. 98
Air-conditioning unit steps up mill efficiency (F).....Sept. 144
Aluminum section beam for synthetics.....Mar. 148
Bad blending of stock may cause cockles.....June 180
Ball-warper stops aided by plugging switch. Sergio Martinez, Jr.....Apr. 160
Beaming instructions for head set.....Feb. 182
Bearing, adjustable, made for rocker-shafts. John Falone.....Aug. 176
Bobbin-handling plan promises savings. Preben Jessen (F).....Jan. 104
Bobbin has replaceable parts.....June 142
Bobbin of aluminum "armored" with plastic.....Nov. 172
Bramwell feed box feeds under pressure. William Shaw.....July 159
Bramwell feeders have improved design.....May 143
British uptwister introduced.....July 146
Cake holder reduces waste.....Oct. 168
Calender, horizontal.....Dec. 162
Capacitance method measures fabric wear.....June 142
Card-clothing wire rusts from humidity.....Feb. 196
Cards held in plastic holder.....Nov. 168
Casablancas system offered by H & B.....Aug. 150
Check straps.....Oct. 236
Coiler heads raised with welded pieces. W. L. Hancock.....June 164
Combed-yarn mill stops top-roll damage. L. J. Williams (F).....June 111
Compartment washer features flexibility.....Aug. 156

(F) indicates feature article

Compensator holds warping tension..July 148
Cooking, storage, and size box controlled ..Jan. 152
Cotton machinery adaptable to linen-type rayons. S. A. G. Caldwell (F)... Jan. 108
Cotton-mill waste can be reduced. E. H. Helliwell (F).....Aug. 131
Creel is versatile.....May 152
Crepe filling breaks caused by improper tension.....June 186
Curtains of air combat and fly.....Apr. 152
Defective embossing causes dye breaks ..Apr. 234
Defects—causes are frequently confused. Albert Frantz (F).....June 135
Desizing evaluation aids dyeing. K. W. Keller (F).....June 125
Device eliminates check strap.....June 148
Device improves yarn-spinning.....June 144
Do monofilament warps require drawing-in?.....Aug. 196
Do you read test values? (F).....Sept. 153
Don't blame static if cots lap up. C. W. Bendigo (F).....Apr. 127
Double spindle retains trueness....Sept. 260
Drawing sizes corrected to regain..Jan. 168
Dryers equipped with Drimeters....May 148
Drying textile materials.....Sept. 206
Dryers for textiles studied by Institute of Textile Technology. P. M. Thomas (F).....Mar. 116
Electron micrometer records yarn variations.....July 146
Examining lamp.....Jan. 154
Examining machine.....Jan. 222, Sept. 266
Extra dobby cord sets should be kept. H. E. Wenrich.....May 168
Extraction speed depends on the material.....Mar. 1
Extractor has removable twin baskets.. Feb. 164
Feeder line has improved features.. July 144
Fiber meter makes blending automatic. L. J. Williams (F).....Apr. 137
Figure carding production right...Aug. 186
Filling color motion improved on old looms.....Nov. 182
Filling winders to be produced by Foster.....Aug. 149
Finishing plant, Spring Cotton Mills, features straight continuous operation. P. M. Thomas (F).....Jan. 106
Finishing processes combined into one.. Oct. 162
Flat-bed seamer handles bulky seams.. Aug. 160
Frame stop motion improves roving... Apr. 141
Gage measures thickness.....Oct. 164
Garnetting improved by cross feed..May 152
Gas infrared.....Jan. 154
Guard saves narrow-fabric shuttles..July 161
Guide life increased 30 times.....Aug. 158
Hacoba winder.....Jan. 146
Hand perch has aluminum measuring roller.....Apr. 146
Handling-in machine speeds drawing-in .. May 148
Harness holders aid in dropping warp-stop wires. H. E. Wenrich (F)...Apr. 125
Heat setting machine.....Apr. 156
Heavy seaming machine.....Aug. 156
Heddle frames, aluminum.....Feb. 168
Hegemax device.....Aug. 165
Hook bolsters repaired by machine..May 146
Hot-air slashing interests Georgia men (F).....Jan. 102
How to slip-draft for long rayon fiber .. June 166
Inspecting machine shows cloth "stationary".....May 154
Jacquard, double-lift.....Jan. 150
Knock-off electrodes reduce seconds. W. G. Casey.....Sept. 183
Larger yarn packages wound.....Aug. 170
Legal decisions can be helpful. L. T. Parker (F).....June 230
Light bulb in box aids counting of picks. A. W. Freeman.....Mar. 164
Light flyers designed for fine-yarn twisting.....Apr. 142
Loom-model designations confuse reader .. Sept. 214
Loom operation improved by flywheel motor.....Sept. 168
Loom pinion reduces filling marks. Sept. 172
Loose-mark defect.....May 166
Machine efficiency recorded by instrument.....Mar. 146
Manchester Show. J. S. Barke (F)...Feb. 101
Material flow in a rayon factory...Sept. 195
Measured motion times the job faster. C. M. Bowden (F).....Oct. 122
Measuring web thickness.....Feb. 166
Metallic salt control cuts finishing costs. T. N. Patrick (F).....May 133
Micrometer depth gage gives card wire length.....Sept. 186
Mill purchases hit all-time high. C. W. Bendigo (F).....Feb. 107
Mineral and vegetable oils preferred as coning oils.....July 180
"Monocord" joins family of textile yarn forms (F).....Jan. 125
Monofilament and staple azlon produced, a casein fiber. C. W. Bendigo (F).... May 106
Mooresville's rayon mill stresses versatility. C. M. Bowden (F).....Jan. 110
Moving drop wires seldom need cleaning.....July 178
Narrow-fabric warp may need to be sized.....June 180
Neutralizer bar eliminates static...Jan. 224
New card clothing cuts stripping frequency.....Mar. 142
Newer synthetics are in the spotlight. C. W. Bendigo (F).....Sept. 111
1948's textile achievements can be matched in 1949. W. B. Dall (F).... Feb. 103
1949 textile output figured close to 1948. S. S. Parker (F).....Feb. 104
Non-lubricated rolls attack highest costs. W. A. Newell (F).....July 110
Operating tests to improve yarn quality. E. H. Helliwell (F).....Aug. 102
Packaging in transparent material. W. A. Newell (F).....July 108
Pick-and-pick loom.....Dec. 152
Picker maintenance is key to quality laps. R. H. Pharr (F).....Nov. 147
Picker, pneumatic.....Feb. 160
Picking motion cause of bad doffs. Eugene Schremp (F).....Aug. 141
Plastic tubes easy to doff.....Oct. 236
Posters keyed to textile industry. W. A. Newell (F).....Sept. 110
Precision machinery to raise efficiency. W. A. Newell (F).....Feb. 113
Press-offs and stops reduced by yarn control (F).....Apr. 96
Printing oils speed up cohesion of thickening mixtures. T. N. Patrick (F).... Oct. 143
Production equipment produced by Standard Mill.....Mar. 143
Proper tape points to power savings. R. S. Crowsley (F).....Mar. 126
Quality winding demands precision control. K. H. Inderfurth (F).....Dec. 129
Quiller makes variety of packages..Sept. 168
Radiation used to measure thickness.. Sept. 262
Random web machine uses short fiber.. July 141
Reduce rayon tensities at higher humidities. Rene Bouvet (F).....July 118
Regaining quality requires definite plan. E. M. Findley, Jr. (F).....May 103
Regulator adjusts slasher-roll weight.. Aug. 154
Ribbon-lapper knock-off.....Dec. 167
Roller bearings in spindle bolsters. June 150
Rolls improve yarn quality.....Oct. 160
Rolls unweighted with lever and hooks .. Oct. 171
Saddles and nebs permanently oiled.. Feb. 168
Sandwich blends made automatically.. Aug. 156
Satin has repeat marks.....Mar. 180
Schneider Mills weaving mill is called ultramodern. C. M. Bowden (F). Feb. 120
Seats for spinners fastened to frames.. Aug. 170
Seconds caused by center-fork smashes. Albert Frantz (F).....Mar. 131
73¢ caustic soda saves plant money. C. N. Rabold (F).....Apr. 121
Shuttles kept on loom arch.....Aug. 168
Slasher, hot-air.....Feb. 160
Slashing and weaving explored by Alabama meet (F).....Aug. 118
Slitting machine.....June 148
Sloughing of rayon yarn causes trouble in weaving.....Jan. 180
Small-yardage dyeing cost cut by in-closed jig. F. A. Alter (F).....Oct. 120
Smooth reed wires stop washboarding .. Sept. 184
Soft-thread bolts lay end.....May 164
Soluble yarns make novel effects possible. Dr. C. Meiklejohn (F).....Aug. 120
Spend money to save on operating costs (F).....Nov. 105
Spindle bracket has spring-loaded brake .. Oct. 246
Spindle of new design.....Feb. 160
Spinners' standards don't go far enough. C. M. Bowden (F).....Mar. 122
Spinning frame driven by gears and chains. H. J. Cabaniss.....Mar. 166
Spinning-frame wire breaks, singling ends.....Jan. 162
Spinning practices given by Georgia Operating Executives (F).....July 106
Spot reports.....Nov. 196
Spreader has improved bearing.....May 154
Spring-needle feed parts important. A. M. Young, Jr. (F).....Mar. 120
Stop motion leaves yarn in position. Apr. 148
Strain-gage tests reveal beam-stress data. D. C. Bender (F).....Oct. 133
Sweepstick improves picking action... Sept. 170
Synthetic detergents have broad application. Dan O. M. Morgan (F)....Apr. 129
System saves money in throwing combinations. John Lucas (F).....May 139
Tape has many uses.....Aug. 165
Technology advances at Textile Research Dept., American Viscose Corp. (F).... Aug. 93
Temples may cause warpwise defects. Albert Frantz (F).....July 131
Tensile tester.....Jan. 146
Tension compensator cuts rayon yarn stretching.....Sept. 278
Tension permits unwinding crepe from packages.....Oct. 244
Tensiometer measures yarn tension. Sept. 252
Tester for yarn, roving, or sliver....May 156
Tester, hand-powered.....Aug. 165
Thread counter.....June 146
Three step plan for cutting costs in your mill. Uris & Kostemayer (F)....Nov. 110
Timestudy methods give true job values (F).....Nov. 126
300-den rayon filling causes loom stops .. Feb. 198
Top roll ends bushed with nylon...Aug. 166
Transparent velvet that is lustrous may require rayon yarn.....Aug. 194
Tricot fabric spreader.....Sept. 180
Tricot finishing methods. Irving Teplitz (F).....Mar. 129
Tricot-handling system is mill designed. C. M. Bowden (F).....Apr. 100
Tricot presetting unit to be manufactured.....May 150
Trucks expedite warp handling. Marion, N. C. (F).....Oct. 149
Twister uses single-head spool.....May 150
Two-for-one twister designed for tire cord.....Oct. 232
Ultra-thin sectioning evolved for fiber study (F).....Oct. 141
Ultraviolet light permits quick testing. F. Wood (F).....Nov. 142
Up-twisters best for filament yarns. John Lucas (F).....Mar. 139
Variable-speed unit.....Apr. 154
Vicara blends give best results. G. R. Wildermuth (F).....June 139
Visual check shows friction slippage.. Nov. 182
Warp bobbins stripped automatically.. Sept. 174
Warp conditioner reduces static problem.....Oct. 234
Warp streaks in twill caused by mixed yarn lots.....Jan. 182
Warper runs 900 yd. per minute...May 144
Warps tied with single preparation..June 148
Washboard shuttles cause weaving trouble.....Apr. 236
Washing systems greatly improved. D. S. Quern (F).....June 108
Weaving accessories have extreme hardness.....Apr. 148
Weaving changes improve impact resistance (F).....Feb. 155
Wet Processing Show—guide to exhibitors.....June 192a
Wetting goods causes crease marks..May 180
White effects in discharge printing. T. N. Patrick (F).....July 137
Worker health and mill temperature. P. L. Davidson (F).....Mar. 141
World position of textiles in 1948 (F).... Feb. 108
Yarn measured by light.....Jan. 144
Yarn tensiometer. K. E. Trelenberg... July 160
Yarn variation shown by index. E. H. Jackson, Jr. (F).....Aug. 106

Research

Abrader correlates actual-wear data.. Dec. 154
Cotton-jersey shrinkage varies with construction. Dr. Hazel M. Fletcher (F) Oct. 139
Cotton research brings improved products (F).....May 131
Demineralizer for laboratory faucet... Mar. 156
Lippitt mill rejuvenated by modern equipment. C. H. Leach (F).....July 114
Microtome redesigned.....Feb. 164
Oven dries samples rapidly.....Mar. 156
Philadelphia Textile Institute opens new main building (F).....Nov. 155
Pilot control features modernization by Rocky Mount Mills. J. M. Gregory (F) Aug. 110
Research in textiles marks important gains. P. M. Thomas (F).....Feb. 112
Sliver tester spotlights quality. C. M. Bowden (F).....Oct. 130
Southern Regional Research Laboratory works on cotton developments (F).. Jan. 139
Technology advances at Textile Research Dept., American Viscose Corp. (F).....Aug. 93
TRI '48 a progress report. W. A. Newell (F).....Sept. 132
Ultra-thin sectioning evolved for fiber study (F).....Oct. 141
Use your slide rule on mill problems.. Apr. 168
Resin—monofilament fabrics require special techniques (F).....Oct. 108
Rubber—device feeds rubber yarn uniformly.....May 146
Test elasticity of rubber yarns..Sept. 204
Russia—position of textiles in 1948. Andrew Steiger.....Feb. 250

S

Safety

Door bolt works from either side..May 164
Emery safety shoe designed for ladder .. Oct. 176
Fire prevention cuts cotton fire losses.. May 170
Floor mat.....Mar. 156
Fulton Bag & Cotton Mills aims at better workers with better health. E. D. White (F).....June 106
Glass panel in door may prevent accidents.....Jan. 166

Handle processing acids in weak concentrations ..... Feb. 204
How safety builds goodwill. Glenn Gardiner ..... Jan. 157
Printing-roll guards protect against burns ..... Aug. 172
Protect against fire during a shut-down ..... Nov. 256
Safety can cut your costs ..... Apr. 172
Safety controls accident and insurance costs. Claire Burch (F) ..... Oct. 147
Shuttle guard on loom keeps shuttle on race ..... Jan. 162
Slipping ladders held ..... Aug. 196
Storage method for fire hose. H. J. Haas ..... Mar. 162
Saran—monofilament fabrics require special techniques (F) ..... Oct. 108
Sewing machine, French, uses three threads ..... Nov. 164

Silk Manufacturing

Abrasion tester, rotary ..... Jan. 142
Inspecting machine shows cloth "stationary" ..... May 154
Larger yarn packages wound ..... Aug. 170
Loom-model designations confuse reader ..... Sept. 214
Measured motion times the job faster. C. M. Bowden (F) ..... Oct. 122
Neutralizer bar eliminates static ..... Jan. 225
Packaging in transparent material. W. A. Newell (F) ..... July 108
Plastic tubing holds yarn moisture content ..... Apr. 152
Spot remover ..... Nov. 196
Synthetic detergents have broad application. Dr. O. M. Morgan (F) ..... Apr. 129
Tester for yarn, roving or silver ..... May 156
Three step plan for cutting costs in your mill. Uris & Kostemayer (F) ..... Nov. 110
Ultraviolet light permits quick testing. F. Wood (F) ..... Nov. 142
Washboard shuttles cause weaving trouble ..... Apr. 256
South Africa—position of textiles in 1948. J. M. Lawless ..... Feb. 258
Southern Textile Assn.—Eastern Carolina Div. meeting discusses cotton yarn problem (F) ..... Jan. 137
Report (F) ..... Dec. 137
Spain—position of textiles in 1948. A. V. Sirvent ..... Feb. 254
Sweden—charting idle time and causes. H. W. Anderson (F) ..... Feb. 122
Position of textiles in 1948. G. H. Smith ..... Feb. 254
Switzerland—advanced engineering in Stoffel plant. H. S. Steinmann (F) ..... June 101
Time saving improvements shown in Swiss machines. Boyd France (F) ..... Aug. 104
Symbols—Textile World's finishing symbols. C. N. Raboid (F) ..... Jan 93

T

Textile Operating Executives of Georgia—carding practices discussed at meeting (F) ..... June 116
Slashing discussed by Georgia men (F) ..... Dec. 117
Weave room methods discussed (F) ..... Feb. 129
Weaving discussed (F) ..... Dec. 122
Textile Research Institute—progress report. W. A. Newell (F) ..... Sept. 132

Time and Motion Study

Check timestudy results quickly ..... July 163
Five timestudy uses seen as important. Phil Carroll (F) ..... May 135
Measured motion times the job faster. C. M. Bowden (F) ..... Oct. 122
Simple timestudy methods give true job values (F) ..... Nov. 126
Timestudy training in Southern mill makes use of electrical gadget. Moore & Bowden (F) ..... Sept. 147

U

Uruguay—position of textiles in 1948. John Wilhelm ..... Feb. 110

W

Washington—hand in business will be firmer. Don Loomis (F) ..... Feb. 112

Wool Manufacturing

Abrasion tester, rotary ..... Jan. 142
All-wool slasher cloth made in many qualities ..... Apr. 232
Ball-warper stops aided by plugging switch. Sergio Martinez, Jr. ..... Apr. 160
Balling unit adaptable to pin drafter ..... Nov. 164
Bathing suit fabric has uneven elasticity ..... Mar. 182
Beaming instructions for each set ..... Feb. 182
Blankets, wrinkled, may be caused by finishing ..... Jan. 190
Bradford spinning machine ..... June 141
Bramwell feed box feeds under pressure. William Shaw ..... July 159
Bramwell feeders have improved design ..... May 143
Broadcloth finishing requires many processes ..... June 132
Calender horizontal ..... Dec. 162
Capacitance method measures fabric wear ..... June 142
Card clothing confusion cleared up. Gustav Zellnik (F) ..... Sept. 151
Card-clothing wire rusts from humidity ..... Feb. 196
Cards held in plastic holder ..... Nov. 168
Card shows fiber preference ..... May 172
Carpet looms increase production when new features are added. H. M. Catlin (F) ..... July 125
Carpet backing dryed and cured by fans and air-jets ..... Sept. 180
Carpet—loose stuffer beam causes wrinkles in rug ..... Nov. 200
Casein fiber blended with wool for making felt. C. W. Bendigo (F) ..... May 106
Cashmere carding ..... Mar. 170
Cast panel used in woolen mill. E. H. Helliwell (F) ..... Sept. 138
Check straps ..... Oct. 236
Clothing tensioner drive speeds card re-clothing ..... Nov. 168
Color and process vital in use of vats on wool. G. T. Hug (F) ..... Mar. 137
Compartment washer features flexibility ..... Aug. 156
Continuous treatment of textile wastes—James Lees & Sons carpet mill. R. E. Oberholtzer (F) ..... Oct. 103
Cooking, storage, and size box controlled ..... Jan. 152
Decating time controlled automatically ..... Jan. 148
Don't blame static if cots lap up. C. W. Bendigo (F) ..... Apr. 127
Double slub catcher gives cleaner yarn. J. B. Boyter ..... Mar. 166
Double warp lease keeps ends straight ..... Aug. 174
Dryers equipped with Drimeter ..... May 148
Dryers for textile studied by Institute of Textile Technology. P. M. Thomas (F) ..... Mar. 116
Drying textile materials ..... Sept. 206
Dyeing faults can be prevented or cured. K. E. Marsden (F) ..... Jan. 135
Electron micrometer records yarn variations ..... July 146
Electronic protection motion cuts harsh bang-offs ..... Apr. 154
Electronic protection raises felt-loom speed 18% ..... Dec. 149
Emulsion important on cotton-wool blends. E. H. Helliwell (F) ..... Sept. 163
Ends in stripe pattern counted mechanically. E. Swinden ..... Feb. 176
Examining lamps ..... Jan. 154
Examining machine ..... Sept. 266
Examining machine cuts operator fatigue ..... Jan. 222
Extraction speed depends on the material ..... Mar. 184
Extractor has removable twin baskets ..... Feb. 164
Feeder line has improved features ..... July 144
Felt flow chart (F) ..... Mar. 103
Fiber meter makes blending automatic. L. J. Williams (F) ..... Apr. 137
Figure carding production right ..... Aug. 186
Filling color motion improved on old looms ..... Nov. 182
Filling kinks eliminated to cut mending costs. E. P. Schremp (F) ..... June 131
Filling winders to be produced by Foster ..... Aug. 149
Finer warp yarns cause "ends-out" look ..... Oct. 194
Flat-bed seamer handles bulky seams ..... Aug. 160
Foot-candles mean more production by Bachmann Uxbridge Worsted. W. A. Newell (F) ..... Apr. 110
Forstmann production raised by new woolen card. Gustav Zellnik (F) ..... Oct. 114
Gage measures thickness ..... Oct. 164
Garnetting improved by cross feed ..... May 152
Gas infrared ..... Jan. 154
German woolen-carding machine ..... July 148
Glen plaids should be kept with sharp color effects. George Hart (F) ..... May 127
Guide life increased 30 times ..... Aug. 158
Hacoba winder ..... Jan. 146
Hand perch has aluminum measuring roller ..... Apr. 146
Handling-in machine speeds drawing-in ..... May 148
Handling of wool yarn affects feel of fabric. W. A. Simond (F) ..... Apr. 95
Harness holders aid dropping warp-stop wires. H. E. Wenrich (F) ..... Apr. 125
Heat-transfer principles improve drying. C. B. Albright (F) ..... July 112
Heddle frames, aluminum ..... Feb. 168
Hegemax device ..... Aug. 168
Hot-air slashing interests Georgia mill men (F) ..... Jan. 102
Indicator simplifies drawing-in ..... June 141
Industry needs wool-top standards ..... Dec. 178
Italian worsted spinning machinery available in U. S. ..... Aug. 160
Jacquard, double-lift ..... Jan. 150
Knots counted in testing device ..... May 143
Legal decisions can be helpful. L. T. Parker (F) ..... June 230
Let-off adjustment can make unmerchantable cloth. E. P. Schremp (F) ..... Jan. 123
Lippitt mill rejuvenated by modern equipment. C. H. Leach (F) ..... July 114
Load flats to prevent damage. William Shaw ..... June 160
Long draft and Pneumafil—worsted cost cutting team. Francois Cleyn (F) ..... Nov. 118
Loom-model designations confuse reader ..... Sept. 214
Loom operation improved by flywheel motor ..... Sept. 168
Machine efficiency recorded by instrument ..... Mar. 146
Manchester Show. J. S. Barke (F) ..... Dec. 101
Measured motion times the job faster. C. M. Bowden (F) ..... Oct. 122
Measuring web thickness ..... Feb. 166
Metallic salt control cuts finishing costs. T. N. Patrick (F) ..... Mar. 172
Micrometer depth gage gives card wire-length ..... Sept. 186
Mill purchase hit all-time high. C. W. Bendigo (F) ..... Feb. 107
Modern equipment and layout answer to high woolen mill costs. Gustav Zellnik (F) ..... Nov. 124
Mule ease-up controlled by springs. Joseph Nadeau ..... June 158
Nep standards for combed tops ..... Dec. 190
Neutralizer bar eliminates static ..... Jan. 224
New card clothing cuts need for stripping. Gustav Zellnik (F) ..... Apr. 135
New card clothing cuts stripping frequency ..... Mar. 143
New wool card has large-size doffers ..... Sept. 167
1948's textile achievements can be matched in 1949. W. B. Dall (F) ..... Feb. 103
1949 textile output figured close to 1948. S. S. Parker (F) ..... Feb. 104
No formula available for best beaming tension ..... Oct. 196
Nylon textile rope has long life ..... Dec. 154
Packaging in transparent material. W. A. Newell (F) ..... July 108
Pick-and-pick loom ..... Dec. 152
Picking motion cause of bad doffs. Eugene Schremp (F) ..... Aug. 141
Posters keyed to textile industry. W. A. Newell (F) ..... Sept. 110
Precision machinery to raise efficiency. W. A. Newell (F) ..... Feb. 113
Printing oils speed up cohesion of thickening mixtures. T. N. Patrick (F) ..... Oct. 143
Production equipment produced by Standard Mill ..... Mar. 143
Quiller makes variety of packages ..... Sept. 168
Radiation used to measure thickness ..... Sept. 262
Rayon-yarn cut marks used by worsted weaver. Tom Vine ..... Apr. 162
Recomb wool after top-dyeing? ..... July 166
Recombing unit corrects top irregularity ..... Oct. 162
Regulator adjusts slasher-roll weight ..... Aug. 154
Reworked woolens are better if stripped before dyeing. K. E. Marsden (F) ..... Feb. 141
Roller bearings in spindle bolsters ..... June 150
Sandwich blends made automatically ..... Aug. 150
Scheduled oiling keeps mules in shape ..... Feb. 178
Scouring machine at East Weymouth. Gustav Zellnik (F) ..... Feb. 118
Seats for spinners fastened to frames ..... Aug. 170
Slitting machine ..... June 148
Smooth reed wires stop washboarding ..... Sept. 184
Soft-thread bolts lay end ..... May 164
Special drop wires ..... June 160
Spend money to save on operating costs (F) ..... Nov. 105
Spindle, roller-bearing ..... Nov. 160
Spinners' standards don't go far enough. C. M. Bowden (F) ..... Mar. 122
Spinning frame features simple design ..... Aug. 152
Spot remover ..... Nov. 196
Spring-needle feed parts important. A. M. Young, Jr. (F) ..... Mar. 120
Staplemeter measures tippiness of wool ..... Aug. 200
Sulphur-stove bleach gives uneven finish ..... Mar. 188
Sweepatick improves picking action ..... Sept. 170
Synthetic detergents have broad application. Dr. O. M. Morgan (F) ..... Apr. 129
Tacker, automatic ..... Feb. 159
Tape has many uses ..... Aug. 165
Technology advances at Textile Research Dept., American Viscose Corp. (F) ..... Aug. 93
Tensiometer measures yarn tension ..... Sept. 252
Tension pulley eliminates collars and lint collection ..... June 146
Tensile tester ..... Jan. 146
Tests used for worsted tops ..... May 182
Thread counter ..... June 146
Three step plan for cutting costs in your mill. Uris & Kostemayer (F) ..... Nov. 110

(F) indicates feature article

Timestudy methods give true job values (F) ..... Nov. 126
Trash removal in wool. E. H. Helliwell (F) ..... Dec. 116
Type of loops to use depends on fabric weave ..... Jan. 188
Ultra-thin sectioning evolved for fiber study (F) ..... Oct. 141
Ultraviolet light permits quick testing F. Wood (F) ..... Nov. 142
Variable-speed unit ..... Apr. 154
Vicara blends give best results. G. R. Wildermuth (F) ..... June 139
Warp bobbins stripped automatically ..... Sept. 174
Washer, continuous ..... Nov. 166
Weaver's signal made from tail light ..... May 162
Weaving accessories have extreme hardness ..... Apr. 148
Weaving or finishing can cause bow in cloth ..... Oct. 192
Weighing time cut by single-pan balance ..... Oct. 166
Wet Processing Show—guide to exhibitors ..... June 192a
What pH is best for laundering woolens? ..... Aug. 198
World position of textiles in 1948 (F) ..... Feb. 108
Worsted—stronger yarn at lower costs—pin drafting machine (F) ..... Dec. 106
Worsted drafting system ..... Aug. 165
Worsted filling streaks may be caused by loom ..... Jan. 184
Worsted high-draft system ..... Oct. 158
Worsted for hard wear need special attention in dyeing. K. E. Marsden (F) ..... Apr. 139
Worsteds, piece-dyed, must have special attention in dyeing. E. P. Schremp (F) ..... May 141
Worsted should surrender regain. H. R. Rich ..... Oct. 134
Worsted spinning system uses new drafting assembly ..... Oct. 155
Yarn measured by light ..... Jan. 144
Yarn tensometer. K. E. Trelenberg ..... July 160
Yarn variation shewn by index. E. H. Jackson, Jr. (F) ..... Aug. 106
You can overuse nylon in wool blends. Harry Wignall (F) ..... Aug. 135
Teach workers "why" to get quality .. June 154
Goldberg, J. B. Fibers fabulous, fanciful and factual ..... Aug. 188
Goldstein, Meyer M. Why a pension plan? July 135
Greet, Leui. Textile Club serves mill section ..... May 129
Gregory, John M. Pilot control features modernization ..... Aug. 110

Authors' Index

A

Abrams, Abraham & Lester Mishcon. Pattern area layouts should be of simple shape ..... July 120
Pattern-area layouts use three needle positions ..... Aug. 124
Pattern wheels adaptable in circular-knit designing ..... July 120
Adamson, John R. Punched-card system speeds accounting ..... June 115
Adjemovitch, Branko. Position of Egyptian textiles in 1948 ..... Feb. 258
Albright, C. Barton. Modern heat-transfer principles improve drying .... July 112
Inclosed jig cuts dyeing cost ..... Oct. 120
Anderson, H. W. Swedish mill charts idle time and cause ..... Feb. 122

B

Bagley, H. W. Position of Brazilian textiles in 1948 ..... Feb. 109
Bahnson, Agnew H. Jr. Five systems available for mill humidification. June 104
Barke, J. S. Manchester Show ..... Dec. 101
Beam, Richard L. Finishing plant paces West Coast textile expansion .... Sept. 155
Bender, D. C. Strain-gage tests reveal beam-stress data ..... Oct. 133
Bendigo, C. W. Anything to win .... Apr. 4
At your service! ..... June 4
Busy plants ..... Sept. 4
Don't blame static if cots lap up .... Apr. 127
Every one features cost cutting .... Oct. 4
Higher mechanization per employee. Dec. 4
Higher operator production ..... Aug. 4
Is your technical progress showing? ..... Feb. 4
Let's interlock knowledge, too! .... Mar. 4
Mill purchases hit all-time high .... Feb. 107
Monofilament and staple azlon produced ..... May 106
Newer synthetics are in the spotlight ..... Sept. 111
Opportunity knocks again ..... Apr. 4
Responsibilities gravitate ..... July 4
Study the job first ..... Jan. 4
Bogdan, J. F. Nomograph gives nep count per unit weight ..... Dec. 128
Bouvet, Rene. Reduce rayon tension at higher humidities ..... July 118
Bowden, C. Mallard. Air conditioning aided by magnetic drive ..... Apr. 131
Automatic scale watches picker-lap quality ..... Nov. 136
Carousel cuts waste-handling cost .. July 100
Half-hose cost cut ..... Nov. 116
Half-hose mill gets facts on looping. Oct. 118
Measured motion times the job faster ..... Oct. 122
Manpower factor must be right in 1949 ..... Feb. 117
Mooresville's rayon mill stresses versatility ..... Jan. 110
New sliver tester spotlights quality. Oct. 130
Rayon-weaving mill is called ultramodern ..... Feb. 120
Southern mills speed cloth handling. Jan. 100
Spinners' standards don't go far enough ..... Mar. 122
Tricot-handling system is mill designed ..... Apr. 100
Bowden, C. Mallard & H. R. Moore. Give your timestudy trainee new tools. Sept. 147
Bowden, Charles W. Jr. Bleaching improved by instrumentation ..... Feb. 124
Electronic controls remove processing guesswork ..... Oct. 124
Brewster, Frederick R. Position of British textiles in 1948 ..... Feb. 111
Brookshire, S. R. Materials handling needs individual engineering .... Nov. 151
Burch, Claire. Safety controls accident and insurance costs ..... Oct. 157

C

Cabaniss, H. J. Spinning frame driven by gears and chains ..... Mar. 166
Caldwell, S. A. G. Cotton machinery adaptable to linen-type rayons ... Jan. 108
Carroll, Phil. Five time study seen as important ..... May 135
Carter, Seth. You can use fiber tests to bolster yarn strength ..... Apr. 118
Your roving defines card-room quality ..... Mar. 133
Catlin, H. M. Improved carpet looms boost weaving production ..... July 125
Catz, Paul. Position of Dutch textiles in 1948 ..... Feb. 246
Cleyn, Francois. Long draft and Pneumafil—worsted cost cutting team .... Nov. 118
Crowsley, Richard S. Proper tape points to power savings ..... Mar. 126

D

Dall, William B. 1948's textile achievements can be matched in 1949 .. Feb. 103
Davidson, P. L. Worker health and efficiency govern mill temperature .. Mar. 141
DeTurck, Harold L. Berkshire hosiery dyeing ..... Dec. 114

E

Eastman, William. Industrial-relations programs should be expanded .... Aug. 143
Egger, Maria. Position of Hungarian textiles in 1948 ..... Feb. 111
Eguren, W. H. Position of Peruvian textiles in 1948 ..... Feb. 110
Emery, Paul D. & F. P. Hunsicker. New lap roll holds 20% more cotton .. Aug. 137

F

Findley, E. M. Jr. Regaining quality requires definite plan ..... May 103
Fisher, Elizabeth. Position of Czechoslovkian textiles in 1948 ..... Feb. 111
Flaherty, Frank. Position of Canadian textiles in 1948 ..... Feb. 109
Fletcher, Dr. Hazel M. Cotton-Jersey shrinkage varies with construction ..... Oct. 139
Fowle, Edwin D. Again our thanks to the textile industry for voting Textile World its favorite magazine ..... Oct. 138
France, Boyd. Position of French textiles in 1948 ..... Feb. 111
Time-saving improvements shown in Swiss machines ..... Aug. 104
Frantz, Albert. Causes of rayon defects are frequently confused ..... June 135
Seconds caused by center-fork smashes ..... Mar. 131
Warpwise defects may be caused by temples ..... July 131

G

Gardiner, Glenn. Costs and job security .. Feb. 175
How safety builds goodwill ..... Jan. 157
How supervisors can control costs .. July 157
If you have to lay off men ..... Mar. 159
Job satisfaction can build job interest ..... Apr. 157
Personal traits need consideration .. May 149

H

Hargreaves, T. Terry-towel borders can have infinite variety ..... June 112
Hart, George. Keep color effects sharp on glen plaids ..... May 127
Helliwell, E. H. Cast insulated panels used in woolen mill ..... Sept. 138
Chalk marks help reduce imperfect work ..... Dec. 147
Cotton-mill waste can be reduced .. Aug. 131
Emulsion important on cotton-wool blends ..... Sept. 163
Lower speeds give fewer neps to California cotton ..... Aug. 139
Overseers role in lowering operating costs ..... Nov. 112
Trash removal in wood ..... Dec. 116
Use operating tests to improve yarn quality ..... Aug. 102
Horsley, K. B. Four-cylinder slashers up Pepperell production ..... Oct. 112
Howard, E. W. Fulton study relates vision and efficiency ..... July 97
Howell, L. M. Spooler rejects gage spinning quality ..... Jan. 131
Hug, G. T. Color and process vital in use of vats on wool ..... Mar. 137
Hunsicker, F. P. & P. D. Emery. New lap roll holds 20% more cotton ..... Aug. 137

I

Inderfurth, Karl H. Quality winding demands precision control ..... Dec. 120
Irmiter, Richard. Cleaning program saves plumbing fixtures ..... Oct. 126

J

Jackson, Edward H., Jr. Yarn variation shown by square-root index ..... Aug. 106
Jessen, Preben. Bobbin-handling plan promises savings ..... Jan. 104
Jessup, A. W. More production of Japanese textiles ..... May 242
Position of Japanese textiles in 1948 ..... Feb. 258
Judson, D. L. & J. A. Stein. Nylon pirn tension test reveals wide variance in drag ..... Aug. 114

K

Keller, K. Willem. Evaluation of desizing aids preparation for dyeing ..... June 125
Kemp aner, H. L. Hosiery manufacturing trends require air conditioning ... Feb. 157
Kennedy, James H. III. Homogenization in warp sizing ..... Nov. 127
King, James R. Mills profit from cooperative training ..... Sept. 103
Knowlton, Howard S. Incentive plan promotes quality output ..... Jan. 98
Kocher, Margaret. Position of Belgian textiles in 1948 ..... Feb. 110
Kostemayer, John & Auren Uris. Three step plan for cutting costs in your mill ..... Nov. 110

L

Lawless, J. M. Position of South African textiles in 1948 ..... Feb. 258
Leach, Charles H. Credit union is valuable worker benefit ..... June 127
Modern equipment rejuvenates Lippitt mill ..... July 114
What one mill did about housing ... Apr. 114
Leche, Horace. Mill sanitation more than pays its way ..... Feb. 143
LeFeaux, H. B. Full-fashioned mills experiment with yarns ..... Apr. 93
Machine gages are a "must" for fixers ..... Sept. 124
12-point program reduces full-fashioned costs ..... Nov. 120
Novelty heels ..... Dec. 108
Yarn tension key to hosiery length. Mar. 111
Leopold, Herbert. Position of Australian textiles in 1948 ..... Feb. 262
correction June 168
Levy, Lawrence. Lint can be licked in your knitting mill ..... Oct. 137
Loomis, Don. Washington's hand in business firmer ..... Feb. 112
Lucas, John. System saves money in throwing combinations ..... May 139
Up-twisters best for filament synthetics ..... Mar. 139

(F) indicates feature article

M

March, Albert P. Small-package dyeing is making headway.....Sept. 106
Marius, N. D. & C. N. Rabold. Finishing is capitalizing recent gains.....Feb. 116
Marsden, K. E. Control reduces dyeing costs.....May 238
Reworked woolens are better if stripped before dyeing.....Feb. 141
Wool dyeing faults can be prevented or cured.....Jan. 135
Worsteds for hard wear need special attention in dyeing.....Apr. 139
Mauldin, Earle. Pepperell experiments with aluminum alloy lays.....Dec. 119
Value of recreation recognized by Dover Mills.....Apr. 106
McGiehen, D. C. Vinyl-film printing—intaglio printing.....Dec. 147
Menkart, Dr. J. Novel effects possible with soluble yarns.....Aug. 120
Miller, Macon P. Rules of conduct necessary for efficient operation.....Nov. 157
Miller, S. J. Nylon combinations are not hard to throw.....Dec. 141
Mishcon, Lester & Abraham Abrams. Pattern area layouts should be of simple shape.....July 120
Pattern-area layouts use three needle positions.....Aug. 124
Pattern wheels adaptable in circular-knit designing.....May 112
Mizel, Max. Yield chart gives knitting data.....July 129
Moore, H. R. Employees cash in on textile suggestions.....Aug. 116
Moore, H. R. & C. M. Bowden. Give your timestudy trainee new tools.....Sept. 147
Morgan, Lee. Replaces adjusting screw without gaging parts.....May 162
Morgan, Dr. G. M. Synthetic detergents have broad application.....Apr. 129
Murphy, John. Bates steam main replaces two boiler plants.....Dec. 145

N

Neal, Dorothy. Position of Mexican textiles in 1948.....Feb. 110
Newell, William A. Equipment, employee benefits keynote modernization.....Jan. 114
Materials-handling show brings wealth of ideas.....Mar. 112
More footcandles mean more production.....Apr. 110
Non-lubricated rolls attack highest costs.....July 110
Precision machinery will raise industry efficiency.....Feb. 113
Quality-promoting posters keyed to textile industry.....Sept. 110
Textiles packaged in transparent material.....July 108
Textile Research Institute—a progress report.....Sept. 132
Newell, William A. & P. M. Thomas. Centralized lubrication of textile machinery.....May 115
Nisbet, A. J. Knit-nylon fabrics being set continuously.....Nov. 140
Nye, Hudson. Mr. Overseer—counseling is for you!.....Sept. 165
Interviewing supervisors.....Dec. 143

O

Oberholtzer, Robert E. Continuous treatment of textile wastes.....Oct. 103
Ojala, O. O. Position of Finnish textiles in 1948.....Feb. 111
Ortiz, E. Sanchez. Position of Puerto Rican textiles in 1948.....Feb. 110

P

Parker, Lee T. Knowledge of legal decisions can be helpful to mill men.....June 230
Parker, Sanford S. 1949 textile output should run close to 1948 figures.....Feb. 104
Pasdermadjian, Henry. Position of Danish textiles in 1948.....Feb. 110
Patrick, T. N. Clean white effects attainable in discharge printing.....July 137
Control of metallic salts cuts cost of finishing.....May 132
Printing oils speed up cohesion of thickening mixtures.....Oct. 143
Pharr, Robert H. Picker maintenance is key to quality laps.....Nov. 147
Powell, John W. Position of Chinese textiles in 1948.....Feb. 254

Q

Quern, D. Stewart. Washing systems greatly improved.....June 108

R

Rabold, C. Norris. Presenting Textile World's finishing symbols.....Jan. 93
73% caustic soda saves plant money.....Apr. 121
Rabold, C. Norris & N. D. Marius. Finishing is capitalizing recent gains. Feb. 116
Reed, Fran. Position of Dominican textiles in 1948.....Feb. 110
Richardson, J. Herbert. Position of Portuguese textiles in 1948.....Feb. 250
Roux, Maurice C. E. The story behind Pepperell's Open House.....Mar. 119

S

Salbagh, Rafael. Position of Guatemalan textiles in 1948.....Feb. 110
Saenz, Jaime. Position of Bolivian textiles in 1948.....Feb. 109
Sayers, L. D. Cotton mill builds larger yarn packages.....Apr. 108
Schaden, Harry. Mexico builds modern cotton mill.....Feb. 151
Precision conditioning at Revolution Mills.....Aug. 98
Schremp, Eugene P. Eliminate filling kinks to cut mending costs.....June 131
Faulty picking motion can cause bad doffs.....Aug. *141
Let-off adjustment can make unmerchantable cloth.....Jan. 123
Seconds can be reduced in piece-dyed worsteds.....May 141
Scott, John M., Jr. Herman Burns asks his supervisors.....Oct. 153
Scott, Richard C. Principal capital outlay is for modernization.....Nov. 163
Selden, Karl, Jr. Superior control possible with electronics.....May 137
Shinn, W. E. & C. B. Sink. Miniature slasher developed at N. C. State. Aug. 122
Simmons, John. Half-hose lubrication should be simple.....Feb. 126
Simond, Walter A. Handling of wool yarn affects feel of fabric.....Apr. 95
Sink, C. Boyce & W. E. Shinn. Miniature slasher developed at N. C. State. Aug. 122
Sirvent, A. V. Position of Spanish textiles in 1948.....Feb. 254
Smith, G. Howard. Position of Swedish textiles in 1948.....Feb. 254
Solem, Arne. Position of Norwegian textiles in 1948.....Feb. 246
Steiger, Andrew. Position of Russian textiles in 1948.....Feb. 250
Stein, J. A. & D. L. Judson. Nylon pirn tension test reveals wide variance in drag.....Aug. 114
Steinmann, H. Ulrich. Advanced engineering in Swiss Stoffel plant.....June 101
Straniero, Diego. Position of Italian textiles in 1948.....Feb. 242
Struve, F. Elwood. Knitting-plant modernization reduces maintenance..Nov. 135

T

Teplitz, Irving. Change keynotes tricot-finishing.....Mar. 129
Must control variables in dyeing cotton jersey.....May 108
Wool jersey finishing calls for special techniques.....July 133
Thomas, P. M. Cotton mills cut costs at every step.....Nov. 114
Finishing plant features straight, continuous operation.....Jan. 106
Lap-handling system pays for itself in a year.....May 110
Modernized weave room gets good efficiency.....Mar. 124
Research in textiles.....Feb. 112
Spinners should squawk.....May 6
Textile dryers studied by Institute of Textile Technology.....Mar. 116
Thomas, Prentice M. & W. A. Newell. Centralized lubrication of textile machinery.....May 115

U

Uris, Auren & John Kostemayer. Three step plan for cutting costs in your mill.....Nov. 110

V

Van Denburg, J. K. Position of Indian textiles in 1948.....Feb. 258
Vandenburg, Joe. New cotton mill—India. New cotton mill—India style.....Nov. 138
Vine, Tom. Rayon-yarn cut marks used by worsted weaver.....Apr. 162

W

Walmsley, Leslie L. Trends in knit goods call for better finishing.....Jan. 116
Warren, G. C., Jr. Winder-yarn conveyors save $10,000 a year.....Dec. 126
Wenrich, H. E. Harness holders aid in dropping warp-stop wires.....Apr. 125
White, E. Dalton. Automatic controls lower costs and raise quality.....Dec. 133
Circular-hosiery mill maintains quality of yarn.....Apr. 98
Conditioned water saves fuel, improves quality.....Aug. 108
Graniteville Mill installs section-beam conveyor.....Jan. 112
Half-hose dyehouse equipped for versatile operation.....July 104
Knitting-yarn preparation must reflect quality.....Sept. 108
Steady improvements spark knitting mill cost program.....Nov. 122
Underwear knitter emphasizes yarn and feeding.....Apr. 105
Worker services pay mill and employee.....June 106
Wignall, Harry. You can overuse nylon in wool blends.....Aug. 135
Wignall, H. Graphs that show costs are useful to knitters.....Sept. 190
Wildermuth, Grace R. Vicara blends give best results.....June 139
Wilhelm, John. Position of Argentinian textiles in 1948.....Feb. 109
Position of Uruguayan textiles in 1948.....Feb. 110
Williams, L. J. Combed-yarn mill stops top-roll damage.....June 111
Fiber meter makes blending automatic.....Apr. 137
Hosiery stamping stepped up by mechanization.....Jan. 127
New spindle cuts maintenance at Greenwood.....June 137
Novel device saves wrap yarn.....Oct. 145
Springs gets more steam by improving pulverizer.....July 117
Two-floor chain conveyor moves full sliver cans.....Aug. 100
Wood, C. P. Good engineering service more essential.....Feb. 115
Wood, F. Ultraviolet light permits quick testing.....Nov. 142

Y

Young, Albert M., Jr. Spring-needle feed parts important.....Mar. 120

Z

Zelinik, Gustav. Card clothing confusion can easily be cleared up.....Sept. 151
Modern equipment and layout answer to high woolen mill costs.....Nov. 124
New card clothing cuts need for stripping.....Apr. 135
New machines speed wool scouring..Feb. 118
New woolen card raises Forstmann production.....Oct. 114

(F) indicates feature article

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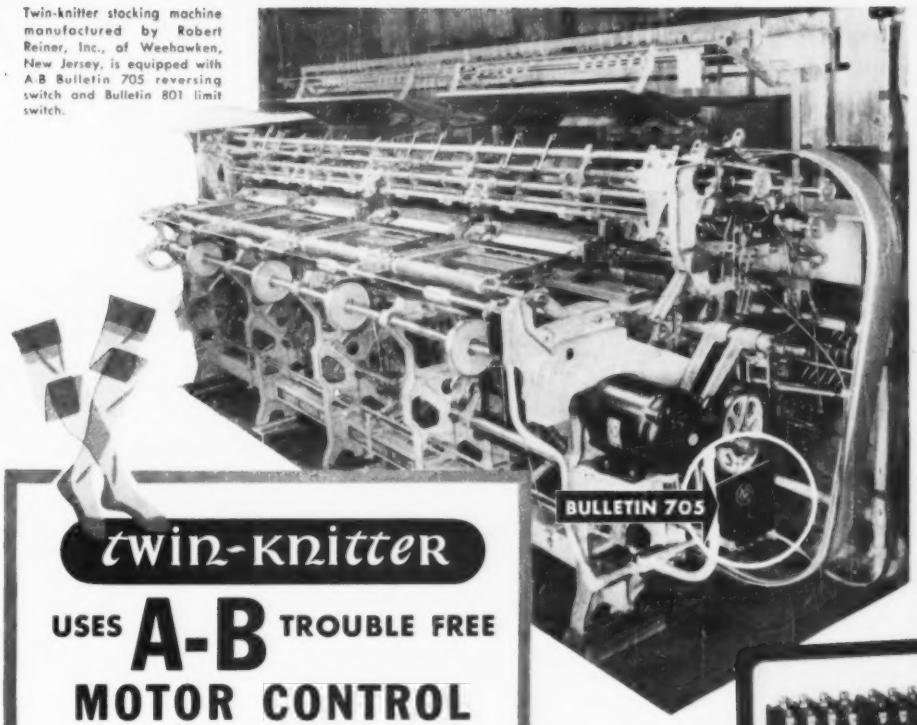

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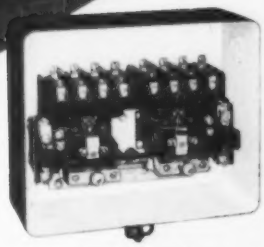

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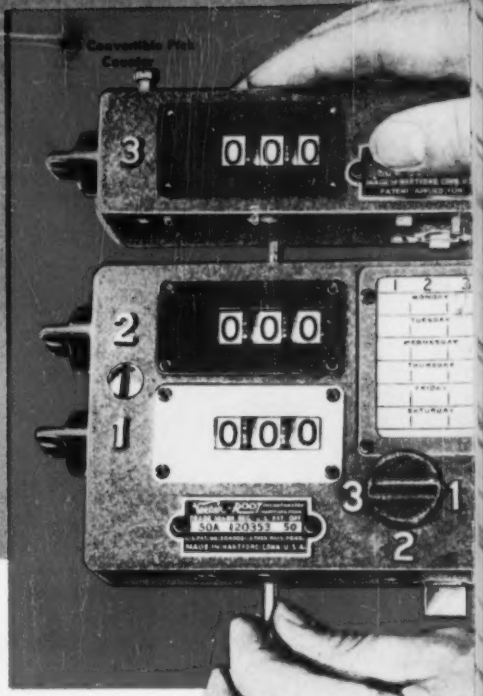

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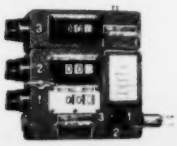

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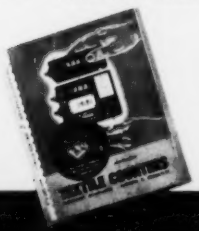

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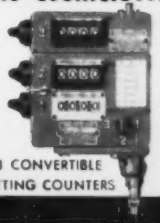

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